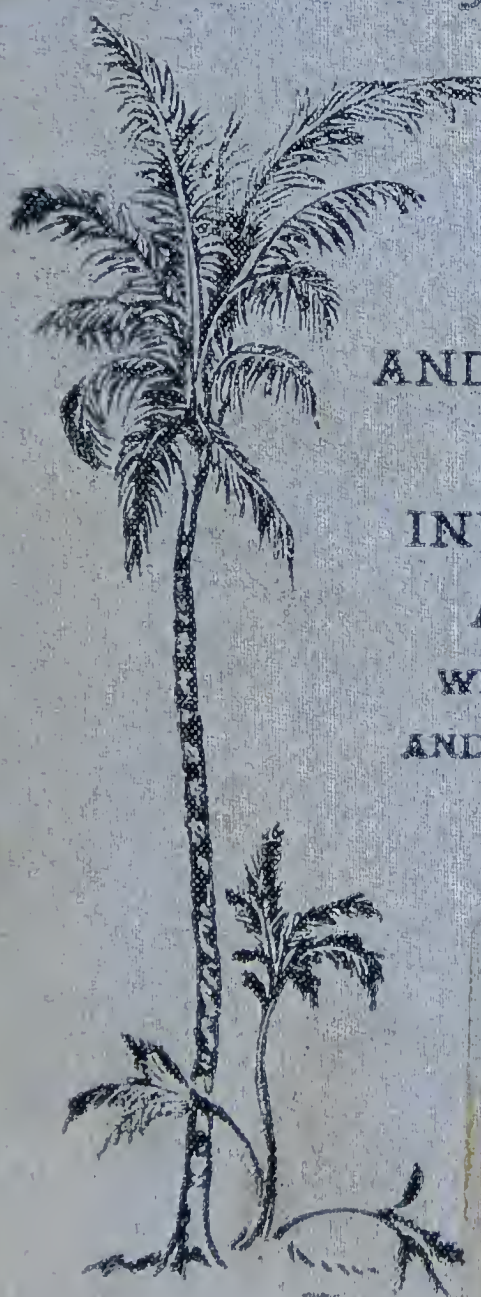


Brown's Madeira and the Canary Islands



A PRACTICAL
AND COMPLETE GUIDE
FOR THE USE OF
INVALIDS TOURISTS
AND RESIDENTS
WITH TRADE STATISTICS
AND NOTES ON THE AZORES

THIRD AND REVISED
EDITION

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MADEIRA, TENERIFFE AND GRAND CANARY

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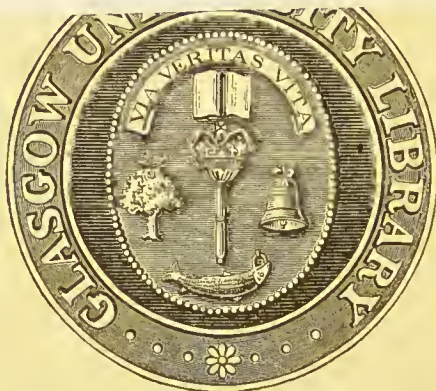


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g; Las Palmas, Grand Canary; and 109, Gravier
New Orleans.

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"The author treats his subject as if he both knew it and loved it."—*Saturday Review*.

COPIES OF THIS BOOK MAY BE PROCURED

In LONDON and SOUTH AFRICA at the Publishers' Offices,
or of any Bookseller, less the usual discount.

In MADEIRA of Mr. H. HEMPEL, 3, Rua dos Murças, and in
some of the Stores, &c.

In SANTA CRUZ, TENERIFFE, of Messrs. HAMILTON & Co.

In PUERTO OROTAVA, TENERIFFE, of Mr. PETER S. REID.

In GRAND CANARY, of Messrs. MILLER & Co.

The price (2/6) admits of no discount in the Islands and depends upon the rate of exchange. In Madeira the duty is added. The book is also stocked by a few shops and hotels in the different islands.

MADEIRA
AND
THE CANARY ISLANDS

A
PRACTICAL AND COMPLETE GUIDE

FOR THE USE OF
INVALIDS AND TOURISTS

WITH ELEVEN MAPS AND FIVE PLANS

IN THREE COLOURS.

BY
A. SAMLER BROWN

THIRD AND REVISED EDITION.

London:
SAMPSON LOW, MARSTON AND CO., LIM.,
ST. DUNSTAN'S HOUSE, FETTER LANE, FLEET ST., E.C.
J. C. JUTA & Co., CAPE TOWN & JOHANNESBURG

1894
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PRINTED BY BARNICOTT AND PEARCE
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TAUNTON

PREFACE TO THE THIRD EDITION.

THE continued and steady demand for this little work has induced the author to thoroughly revise it and to add a quantity of information, as well as a new and much more elaborate series of maps, the most complete yet printed. These have been drawn by himself almost entirely from experience gained during a long course of walks and rides, and are confidently recommended as being as correct as the nature of the country will allow.

Hitherto, books have treated of the islands as a health resort for lung disease, and have added a few excursions. The writer has commenced with the excursions and grouped around them, in a concise form, the latest steamboat facilities, etc., in such a manner that the visitor can calculate his expenses from start to return. To this is added the result of a quantity of advice, study and experience, which will save future visitors an infinity of trouble and money. He has also endeavoured to show that the islands are not merely beneficial to those weak in the lungs, but are peculiarly adapted for a number of other illnesses.

Amongst the additions are as complete a series of meteorological tables as could be obtained, in which it has been endeavoured to include the statistics required by the medical profession and to eliminate figures confusing to the ordinary reader.

Those interested in natural history will find a few pages devoted to this subject, to be regarded rather as an incentive to the further collection of data than as of any real scientific value.

An entirely new feature is the part devoted to the commercial and social condition of the islands. Many invalids are anxious to settle in some country where the climate is favorable and where a living can be obtained. Those who think of emigrating to Madeira or the Canaries will do well to

study this section of the book, which it is hoped will also be found of use to merchants at home, to shippers, and to traders generally.

At a time when the British Government considers it necessary to issue special instructions to its Consuls and Representatives abroad, the information given seems to form a necessary appendix to a guide dealing with countries to which British subjects may wish to emigrate, or in which British trade needs to be watched. Though Madeira and the Canary Islands can scarcely be classed as amongst the former, the climatic conditions and the methods of agriculture prevailing in them apply almost equally well to many of our own colonies; whilst information may serve two ends, viz., to bring the right people, who are able to make a living, and to keep away those who would do better elsewhere.

It is also a distinct gain to all, that Consular and other reports should be periodically epitomised, as but few can spare the time to hunt up a mass of hidden and half-forgotten records, which, even when found, would need systematic classification.

The advertisements serve a double purpose—namely, to show the good opinion which the islanders themselves entertain of the book and to allow the traveller to dispense with a large amount of baggage by showing him what he must and what he need not take with him.

The log-book at the end, it is hoped, will be used by those at sea. It has been placed there because the author wants the advertisements to be studied as a part of his scheme, which is to increase the knowledge of the islands, and thereby necessarily to increase their popularity.

The whole book has been fully indexed, and the pages have been headed where it has seemed desirable.

The author is deeply indebted to Señ. D. Ramon de Ascanio y Cruzat, who with the greatest kindness volunteered to read through the proofs of both maps and matter, in order that there should be no mistakes in the local names, Spanish terms, etc.

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ENGLISH LINES OF PASSENGER STEAMERS (for Advertisements see pages A to E).

| NAME OF LINE. | WHEN BOATS SAIL. | WHERE FROM. | TICKETS. | | | | TOUCHING AT | | | | OBSERVATIONS. | AGENTS IN THE ISLANDS. |
|---|--|---|--------------------------|-------------------------|--------------------------|----------------------------|-------------|--------------------------------|---------------------------------|-----------------------|---|--|
| | | | Single. | | Return. | | Madeira. | Teneriffe. | Gd. Canary. | Intermediate Ports. | | |
| | | | 1st. | 2nd. | 1st. | 2nd. | | | | | | |
| British and African S. N. Co. ... African S. S. Co. | Every Saturday, with an extra steamer every two weeks. | Liverpool (Hamburg & Rotterdam every ten days). | £10 | ... | £15 | ... | Fortnightly | Fortnightly | Weekly | Antwerp monthly | Return tickets twelve months. The journey may be broken at each port each way. Special facilities for tourists. Tickets are available by either line. | Elder, Dempster & Co., Grand Canary. Cia Vapores Interinsulares, elsewhere. Blandy Bros. & Co., Madeira. |
| Forwood Bros. & Co. | Nov. to May fortnightly... June to Dec. monthly ... | London | £10 | ... | 15 guineas | ... | All boats | All boats | All boats | La Palma, Orotava. | Return tickets six months. Round trip 15 guineas from London, or £8 from Madeira, with liberty to break the journey at each port each way. | Blandy Bros. & Co., Madeira. Hamilton & Co., Teneriffe. Miller & Co., Grand Canary. |
| Castle Line M. P. Co. | Every week | London, Southampton, Flushing. | 15 guineas 14 guineas | 10 guineas 9 guineas | £25 10s. £23 12s. 6d. | £17 (a) £15 2s. 5d. (b) | Fortnightly | ... | Fortnightly | ... | Prices (a) apply to Madeira; (b) to Canaries or intermediate boats stopping at Madeira. Return tickets six months. Special fares from Lishon. Homeward fares, Mail boats, 12 guineas and 8 guineas; Intermediate boats, 11 guineas and 7 guineas. The Union and Castle working in conjunction make it a weekly service to Madeira. Passengers landed free of charge at their destination. | Blandy Bros. & Co., Madeira, Miller & Co., Grand Canary. |
| Union S. S. Co. | Every week | S'hampton, Hamburg, Rott'rdam & Antwerp. | Do. | Do. | Do. | Do. | Ditto | Fortnightly | ... | Lishon fortnightly | | Blandy Bros. & Co., Madeira and Canary Hamilton & Co., Teneriffe. |
| Aberdeen Direct (J. T. Rennie, Son & Co.) | Every three weeks | London | £12 | ... | ... | ... | Homewards | Irregular | Irregular | ... | Home from Grand Canary or Teneriffe, £10; from Madeira, 8 guineas. | Blandy Bros. & Co., Madeira. Hamilton & Co., Teneriffe. Gd. Cany. Coaling Co. in Grand Canary. |
| Natal Direct (Bullard, King & Co.) | Every three weeks | London | 9 guineas | ... | ... | ... | Irregular | Alt'n'te out All boats home | Alt'rdate out All boats home | ... | | Blandy Bros. & Co., Madeira and Canary Henry Wolfson, Teneriffe. |
| Aherdeen Line (Geo. Thompson & Co.) | Monthly | London | 12 guineas | ... | 21 guineas | ... | ... | All boats | ... | ... | Homeward calls monthly. | Hamilton & Co., Teneriffe. |
| Shaw, Savill and Albion S. S. Co. New Zealand S. S. Co. | Two each month | London & Plymouth | £14 | £11 10s. | £25 | £20 | ... | Fortnightly | ... | ... | Return tickets are available by either line, making it a fortnightly service. | Hamilton & Co., Teneriffe. |
| Royal Mail S. P. Co. | Monthly | Southampton | £14 | £10 | £25 | ... | ... | ... | Monthly | Vigo, Oporto, Lisbon. | Return tickets six months. | Blandy Bros. & Co., Grand Canary. |
| Lamport & Holt | Two each month | London | 10 gns. A. 11 gns. B. | ... | ... | ... | Fortnightly | ... | Irregularly | ... | Prices (a) are for Madeira; (b) for the Canaries. | Blandy Bros. & Co., Madeira. Miller & Co., Grand Canary. |
| Clan Line Steamers, Limited ... | About two each month ... | Glasgow, Liverpool ... | 12 guineas | ... | ... | ... | ... | Most boats | ... | ... | Only outward bound. | Ghirlanda Hermanos, Teneriffe. |
| Booth S. S. Co. | Monthly | Liverpool | £10 | ... | £15 | ... | Monthly | ... | ... | Lisbon | Return tickets six months. | Blandy Bros. & Co., Madeira. |
| The Gulf Line | Monthly | Glasgow, Liverpool ... | £10 | ... | £15 | ... | ... | Alternate | Alternate | ... | | Hamilton & Co., Teneriffe. Miller & Co., and Grand Canary Coaling Co. in Canary. |
| Turnbull, Martin & Co. | Monthly | London | £10 | ... | ... | ... | ... | ... | Monthly | ... | | Miller & Co., Grand Canary. |

NOTE.—There is a tax of 15 per cent. on all tickets between two Spanish ports by ships of any nation.

Occasionally other boats touch, such as the S. Yachts, "Victoria," "Garonne," &c.

THE INTERINSULAR POSTAL SERVICE OF STEAMERS (CANARY ISLANDS).—This service of steamers, under English management, is of the greatest service to visitors. Boats run to both the Western and Eastern Groups of the Archipelago once a week, and between Teneriffe and Grand Canary twice a week. The round trip can be made for £4, exclusive of feeding—see Time Tables at the Agents in the Islands, and at Messrs. Elder, Dempster & Co.'s Offices in Liverpool and London. A great advantage is that passengers are landed free of charge in the ships' boats, and allowed to remain at each port as long as desired. For Time Table see Advt. pages 50 & 51. Another steamer (306 tons), engaged in the fruit trade, fitted for passengers and offering similar facilities for landing, plies between Santa Cruz (Ten.) and the various ports along the S. of the same island. Agent, Henry Wolfson, Teneriffe.

Blandy Bros. & Co.'s little steamers run from Funchal along the S. coast, both Eastward and Westward, four times a week, and to Porto Santo once a fortnight. See page 85. Another steamer is being constructed for service in Madeira.

FOREIGN LINES OF PASSENGER STEAMERS (for Advertisements see pages A to E).

| NAME OF LINE. | WHEN BOATS SAIL. | WHERE FROM. | TICKETS. | | | | TOUCHING AT | | | | OBSERVATIONS. | AGENTS IN THE ISLANDS. |
|--|----------------------------|---|------------------------|--------------------------------|--------------------|----------------------------|------------------|---------------------|------------------|--|---|---|
| | | | Single. | | Return. | | Madeira. | Teneriffe. | Gd. Canary. | Intermediate Ports. | | |
| | | | 1st. | 2nd. | 1st. | 2nd. | | | | | | |
| Italian. La Veloce | Twice a month | Genoa | lire 250 | lire 175 | lire 400 | lire 280 | ... | ... | All boats | Barcelona. | { Home to Barcelona, 200 lire, plus the tax of 15 % | Grand Canary Coaling Co., Canary. |
| French. Chargeurs Reunis | Twice monthly | Havre | fcs. 400 | ... | less 20 % | ... | Homeward monthly | All boats | ... | { Bordeaux once a month. | { Return tickets twelve months. Families of four persons 5 % reduction. | Hardisson Frères, Teneriffe. |
| Soc. Gle. de Transports Maritimes | Twice monthly | Marseilles | fcs. 250 | fcs. 200 | fcs. 500 | fcs. 400 | By arrangement | Alternate | Alternate | { Genoa, Barcelona, Malaga, Gibraltar. | | { Ghirlanda Hermanos, Teneriffe. Miller & Co., Grand Canary. Silva Passos, Madeira. |
| N. Paquet & Cie | Fortnightly | Ditto | fcs. 220 | ... | less 10 % | ... | ... | All boats | All boats | { Gibraltar, Tangiers, Mogador and others. | | { Hijos de Juan Yanez, Teneriffe. Miller & Co., Grand Canary. |
| Cie des Messageries Maritimes ... | Monthly | Havre | fcs. 250 | ... | ... | ... | ... | ... | Homewards | { Dunkirk, Bordeaux. | | J. Ladeveze, Grand Canary. |
| Fraissinet & Cie | Ditto | Marseilles | fcs. 300 | fcs. 250 | fcs. 540 | fcs. 450 | ... | ... | Monthly | Oran every two months | | J. Ladeveze, Grand Canary. |
| German. Afrik. Dampfschiff. Act. Gesell- schaft (Woermann Linie) ... | Four times monthly | Hamburg | { m. 200 m. 250 | { m. 150 m. 180 | { m. 320 m. 400 | { m. 250 (a) m. 300 (b) | Monthly | Three times monthly | Twice monthly | ... | { Return tickets 12 months. Prices (a) Madeira ; (b) Canaries. | { Blandy Bros. & Co., Mad. and Canary. Hamilton & Co., Teneriffe. |
| Hamb. Sud-amerik. Dampfschiff. Act. Gesell | Three times monthly | Hamburg | m. 350 | ... | ... | ... | All boats | Homeward | ... | ... | | { Blandy Bros. & Co., Madeira. Hamilton & Co., Teneriffe. |
| Deutsche Dampfschiff. Gesell " Kosmos " | Twice monthly | Ditto | m. 250 | m. 180 | ... | ... | ... | ... | Frequently | { Antwerp. London every two months. | Very irregular homewards. | Blandy Bros. & Co., Grand Canary. |
| Portuguese. Empresa Insulana Do. Nacional | Fortnightly | Lisbon | 25\$650 | 17\$100 | ... | ... | Fortnightly | ... | ... | ... | | { F. F. Branco & Sons, Madeira. Blandy Bros. & Co., Madeira. |
| Spanish. Cia. Trasatlantica | Monthly | { Barcelona Marseilles | { pes. 300 pes. 350 | { pes. 218 pes. 253 | less " | 15 % " | ... | Every two months | Monthly | Malaga, Cadiz. | Return tickets 12 months. | { Juan. La Roche, Teneriffe. Swanston & Co., Grand Canary. |
| Pinillos Saenz & Cia | Ditto | Barcelona (sometimes Genoa) | pes. 250 | pes. 175 | ... | ... | ... | Monthly outwards | Monthly outwards | Ditto | { Return boats only touch in April and May. | { Ildefonso Medina, Grand Canary. Aureliano Yanez, Teneriffe. |
| F. Prats & Cia | Ditto | Barcelona | pes. 250 | pes. 175 | ... | ... | ... | Ditto | Ditto | { Valencia, Malaga, Cadiz. | | { Hijos de A. Guimerá, Teneriffe. S. Cuyas y Pratt, Grand Canary. |
| Soc. de Nav. é Industria | Fortnightly | Cadiz | { pes. 162 pes. 185 | { pes. 116 (a) pes. 135 (b) | less " | 20 % " | ... | All boats | All boats | ... | { Commonly called the Spanish Mail. Also a boat running once a month from Seville, and touching at all the islands ; same prices. (a) is Teneriffe ; (b) is Grand Canary. | { Ghirlanda Hermanos, Teneriffe. Swanston & Co., Grand Canary. |

THE AZORES.—The "Empresa Insulana" runs two boats a month to the Azores, one of which stops at Madeira about the 22nd of the month. They take from 3 to 4 days from Lisbon, and about 54 hours from Madeira. The one stopping at Madeira touches at Santa Maria, São Miguel, Terceira, and Fayal. The direct boat does not touch at Santa Maria, but does so at the other islands, as well as at Graciosa, San Jorge, and Flores. The Madeira boat makes the round and returns to Madeira in ten or twelve days, and is ordered to remain twelve day-light hours in each port stopped at. Fares—Funchal to São Miguel (St. Michael's), 1st 22\$500; 2nd 18\$000. To Terceira, 23\$500 and 19\$000. To Fayal, 24\$500 and 20\$000 single. No returns issued.

GUIDE

TO MADEIRA AND THE CANARY ISLANDS.

GENERAL INFORMATION.

The best order in which to visit the Islands, with directions as to outfit, &c.

As no handbook has hitherto treated the Canary Group in a practical manner for the benefit of both invalid and tourist and as, owing to the greater facilities of communication, visitors are now easily able to visit both these and Madeira, even when only away on a comparatively short excursion, it is trusted that the following pages will be appreciated by both, as well as by that still larger class who, being only slightly ill, or abroad in the company of friends, are able to move about and take a pleasure in a series of expeditions among some most lovely scenery and in perhaps the finest climate in the world. As far as possible accommodation in both town and country, distances, times and expenses are accurately stated, generally from the writer's own experience; but in very out-of-the-way districts, where information has been procured from the natives, inaccuracies may have crept in, as the peasant is everywhere ignorant to a degree, has no idea of time or distance and, all the principal mountain paths being given with a view to enable the traveller to check his guide and occasionally do without one altogether, it has been impossible to personally time every distance. This general carelessness about time renders it impossible to give the proper hours of the coaches and allowances must be made. The lists given are, however, more correct than the official lists.

All land measurements given have been carefully worked out into English statute miles and French kilometres. Geographical miles are only used for long sea journeys.

The plan followed is to take the tourist along from the base to the end of some particular road, the side excursions being printed, when possible, in smaller type. By the aid of the maps more extensive journeys may be planned.

Care must be taken not to pay too much attention to local descriptions of scenery, the scarcity of water on some of the southern slopes causing the natives, who have never been elsewhere, to regard a spring or stream of the smallest dimensions as an object of beauty and bepraise it in a manner quite incomprehensible to Englishmen.

Unless otherwise stated, times given on bridle roads are those necessary for mules or horses and no allowance is made for stoppages. On carriage roads distances are given.

The populations are those of the district, not that of the village itself, which is often a most insignificant centre to a widely distributed parish.

The charges are calculated from experience on a fair basis, and though more than a native would pay, are probably less than will be asked from strangers in the first instance.

To each island is affixed a general description, which will be found of use to those thinking of visiting it. The tables of coinage, the postal arrangements &c., are correct and up to date, and the times of the coaches, prices of same and of private carriages are altered in each edition when necessary.

Leaving England, the traveller who wishes to visit all the islands is recommended to stop first at Madeira, to go from there to Teneriffe, and either explore that island, or take the inter-insular boat at once from Santa Cruz (Teneriffe) to Santa Cruz (La Palma), where he can either alight on arrival, or, by taking a round ticket, pay a flying visit to Gomera and Hierro, leaving the ship on its return to La Palma. If the weather in Madeira is bad it should be taken on the return. (See Climatic Conditions.)

Whether Teneriffe or La Palma is taken first, the visitor must return to Santa Cruz (Teneriffe) on his progress eastwards, unless special arrangements are made with the inter-insular service of steamers, for which consult agents; and here it may be parenthetically remarked that one great advantage of the said steamers is that passengers and their luggage are taken on board and landed free in the ship's boat, the circular ticket giving the right of being put on shore at each port touched at and of breaking the journey at will. Presuming, then, that the Western Group of the Islands has been seen, passage may be taken to Grand Canary, where the arrival of the homeward-bound steamer may be awaited and the time passed either in the town, the mountains, or in visiting Fuerteventura and Lanzarote. These plans apply, of course, to the ordinary traveller only and not to the naturalist, to whom, however, it has been endeavoured to make things as easy as possible.

The shortest time in which Madeira, La Palma, Teneriffe and Grand Canary can be visited and the return journey to

England be completed is about three weeks. This allows of time to see little more than the ports stopped at, and must be regarded as a yachting cruise. The time necessary for seeing each island will be found stated in its proper place.

It only remains to be stated that the most beautiful scenery is to be found in La Palma, Teneriffe, Madeira, Gomera and Canary. Fuerteventura and Lanzarote are not attractive.

Those things which are absolutely necessary and which are not likely to be found in the Islands must be taken. Invalids using drugs which are little known, had better carry these with them.

There are some good shops in Funchal, Las Palmas, Santa Cruz (Teneriffe), Santa Cruz (La Palma) and Orotava.

Except in Madeira, clothing is cheap. Good flannels are to be had in Las Palmas and Teneriffe and capital shoes and boots in most of the islands. The latter are made from the native tanned goat-skin and these, with the rough side out, are to be preferred to any other footgear for the bad lava roads in the mountains. If hobnails, as used in Switzerland, are desired, they must be brought from England.

Intending climbers should take light alpine stocks with them; axes are not required. As regards clothing, both warm and light suits must be taken, but for ordinary purposes light woollen dresses for the ladies and flannels or tweeds for the men, are to be preferred during the daytime. Mackintoshes are indispensable in the mountains, but are apt to rot if kept over six or eight months. The native washing is very bad and linen is quickly frayed and torn to pieces, partly owing to the habit of drying it upon the tops of the prickly aloes.

A difference in price, sometimes considerable, is always made between native and English people in the native hotels. English wishing to live at local prices must adopt the native style: Coffee early, a full breakfast at from 9.30 to 11 a.m., and dinner from 5 to 7 p.m. Wine is always placed upon the table. The English service means tea or milk if required when called, a meat breakfast at 9, a meat lunch at 1, afternoon tea and dinner at 7. Coffee is served after dinner in both cases. Many of the native hotels are very good, and by accommodating one's self the expense is much lessened. The native sanitary arrangements are indifferent, but the linen may be reckoned on as being clean and the proprietors as being invariably willing to oblige in every way.

All hotels will reduce their prices to those staying for a long period, if arrangements are made beforehand. A married couple are sometimes considered as one and a half when occupying the same room.

It is advisable, when engaging men and animals for expedi-

tions, to fix a price before setting out and to stipulate that guides, &c., must find everything for beasts and selves. A little relaxation from this rule at lunch-time and a moderate tip at the end of the journey is likely to satisfy all parties thoroughly. A good deal of bargaining is necessary. When a beast is engaged it is understood that the man goes with it. In the Canaries the "arrieros" are exceedingly clever in loading horses, especially if the rider will use a native saddle, "albarda." In Madeira, however, nothing will persuade them to put anything on to the horse which is to be ridden. In hiring horses the visitor must remember that owing to the many scandalous cases of over-riding, for which our countrymen and women are chiefly responsible, low prices will only be accepted when he is known as a moderate rider.

Pack animals, which have brought cargo from the other side of any of the islands, can be engaged to take back passengers at considerably lower prices than those charged in the first instance. Animals of this sort are used to the roads and are rarely very much overworked. This is a hint for those who know how to bargain.

When preparing for camping out, regard must be had to the fact that all baggage will have to be carried by mules or horses, and that these should not be required to take more than from twelve to fourteen stone when on a journey. Tent pegs should be made of iron or hard wood, owing to the nature of the ground. Petroleum can generally be bought in the villages. Those wishing to remain for the summer months will do wisely to remove to the hills.

Parties picnicking or lunching in the open should always offer something to those who pass. Unless offered more than twice and pressed as well, this will be refused, but it is as well that at least one member of the party should offer it. This is a custom of the country which should never be omitted. The same rule applies in small country inns when strangers enter and find others at meals.

There are other local customs and prejudices which English people would do well to acknowledge. For instance it is usual for strangers meeting in an inn to recognise one another's existence and for a lady to bow to a gentleman who leaves the footpath on her account.

Travellers leaving for the mountains will please note that the start should always be made at an early hour, in order to avoid the fogs and mists which frequently gather later on. Such mists are encountered at all altitudes in accordance with the weather. In the Canaries they are however most clearly defined, gathering as a rule at an altitude of from 3,500 to 5,500 feet and forming a floor some 1,000 to 1,500 feet in

thickness. When such clouds assemble during normal weather it is quite safe to climb through them, as the sky is sure to be clear above and the heat of the sun rapidly dries the tourist's clothes. Well defined clouds like these are caused by the warm trade wind, which is thrown up by the land, meeting a colder region, the evaporation from above being counterbalanced by a constant fresh supply from below. They never form before the sun rises nor last for long after it has gone down.

In the Canaries, where the altitude is less than 6,000 feet, one cannot be sure of getting above them, and in Madeira, which is too far north for the full effect of the trade wind to be felt and where the influence of the gulf stream is more noticeable, the risk of getting no view when clouds are about is still greater.

At times all of the islands are clear for days or weeks together and this is the best time for excursions. When the clouds are very low and threatening, or the hills are visible with the sky above them obscured at a great altitude, it is best to stay near home. Even two or three streamers, pointing away from the island as a centre, should be taken as a warning.

Pedestrians walking through woods need have no fear of venomous reptiles, which are unknown. Poisonous spiders exist, however, but are rare.

Visitors for long periods should bring something to employ their time, as there is little to do and riding constantly along the same roads becomes monotonous. If saddlery is brought, it should not be new, as the men are extremely careless.

The chief amusements are excursions, picnics, sketching, taking photographs or making collections of objects of natural history &c. Sport can scarcely be said to exist though there are partridges, quails, woodcock and rabbits to be found in all the islands. Pheasants have also been brought to Teneriffe by the liberality of an English resident but are not allowed to be shot yet. The deep-sea fishing is sometimes very good indeed but ordinary visitors find it too hot upon the water.

In the large towns such as Funchal, Santa Cruz, Las Palmas and sometimes Orotava open-air musical promenades are given. Cock fights take place in most of the towns during the spring-time and occasionally there are bull-fights in Santa Cruz, Las Palmas and La Laguna. Neither of the last will be much appreciated by English visitors, who will be doing a favour to their compatriots living in the islands and helping the cause of common humanity by stopping away.

The "*corridas de sortija*," which take place more frequently in Orotava than elsewhere, are a species of tournament where

ladies and gentlemen gallop on horseback under a bar and endeavour to put a diminutive lance through a ring. The ring is attached to a ribbon, wound round a reel, which the successful rider carries away as a prize. It is a picturesque game and many people are very fond of it.

Paper chases sometimes take place, more particularly at Orotava. In Las Palmas there is a good golf links.

Portuguese is spoken in Madeira and Spanish in the Canaries. Either of these languages can be easily learnt, at least colloquially, in from three to six months.

In the out-of-the-way ports heavy demands may be made for landing in private boats and care must be taken. As regards sleeping in some of the country places, letters of recommendation are at times an advantage.

Those wishing to take houses, either in Madeira or elsewhere, must be prepared for long negotiations. Prices asked of the English in the Canaries are several times as much as were paid a few years ago. Above all strict enquiries must be made regarding the supply of water and what chance there is of its being pure, and remember that it is of no use trying to do things quickly in the Fortunate Islands.

Parties of more than three should send a telegram or letter on ahead when visiting small towns with limited accommodation.

Beggars are sometimes very importunate. It must, however, be remembered that there are no poor houses and that a very little is made to go a very long way. Alms should be given on Saturday and it is best to act under local advice.

Mosquitoes are found on the eastern and southern sides of the Canary Islands, especially those nearest Africa. When present, the night must be passed under curtains, which should be high and airy, allowing a single bed not less than 120 cubic feet. Ammonia should be applied to the bites as soon as possible.

In all the islands and indeed in all southern countries, foreigners, especially English people, occasionally suffer from diarrhœa, shortly after their arrival. The complaint is sometimes difficult to get rid of and lasts for weeks, but may be avoided by care. Chlorodyne, bismuth and laudanum are among the best remedies, but a retreat to the mountains effects a cure in most cases. All comers must be most cautious as regards fruit, native wine, excessive fatigue, or even undue exercise and the use of meat. The latter should only be eaten twice a day. These attacks of diarrhœa are due to the presence of unsympathetic matter in the stomach and the cure should generally be commenced by a dose or two of castor oil taken in the early stages.

Invalids in an advanced stage of illness are cautioned against visiting the islands alone. So many distressing instances have occurred of deaths taking place with no one to help or understand the dying man, that the presence of a friend or nurse cannot be too much insisted on.

Both invalids and tourists should, when possible, avoid sleeping in ground-floor rooms. In native houses these are, as a rule, only intended for cellars: the walls are often simply earth in the centre and damp is nearly always present.

It is urged that too much attention should not be paid to any one personal experience, which may have been prejudicially affected by individual carelessness or misfortune. Invalids are too apt to imagine that the mere change of climate permits them to take liberties with their strength and stomach such as they would never dream of in Europe. Elated and excited by the charm of a nearly constant sunshine and a temperature which permits them to be out at almost any hour in the day, they fail to see the necessity of dieting and watching themselves carefully, presume on the increase of vigour which the sea voyage has probably given them and, acting in an imprudent manner, frequently so accelerate the ravages of the disease from which they suffer, that they never recover, being subsequently cited as examples of the insalubrity or inefficiency of the climate. To these must be added those who, commencing cautiously, destroy all the good effects of months of care by some sudden freak of madness, as well as those who are either sent away too late, or who, through want of knowledge on the part of their medical advisers, have been ordered off to a place entirely unsuited to them; for it must be obvious that all degrees of climate being obtainable, all the islands and all elevations cannot be equally well adapted to all classes of disease, and that a careful study of the case by the consulting physician must be accompanied by an equally careful study of the nature of the district to which he is sending his patient.

This variety of choice, which may at first sight seem to operate against the value of the islands as a health resort, is, as a matter of fact, the one great point in their favour. Rapidly growing in popularity, they are attracting the attention of physicians of all nations, so that in addition to the Portuguese or Spanish doctors, there are a number of medical men from other countries and patients have the advantage, when desired, of detailing their symptoms in their mother tongue. It is from the doctors to be found in the islands that the most exact information regarding the various necessary conditions are to be obtained, and a letter from the physician who has been treating the case would enable one of these to

send the patient to the most favourable locality and afterwards, should the conditions require to be changed, to despatch him elsewhere to find in a situation, probably only a few miles away, a complete alteration in the climatic conditions, which may act as a tonic or a sedative as may be required.

Then again the climate is not perfect—none is—and naturally one season is worse than another, but an average of years must be taken into account, as well as the probability that many in an advanced stage of illness will live longer in these islands than anywhere else and, if they can manage to occupy their minds, will probably enjoy life more.

It is suggested that invalids should not be out at sunset, especially when up in the mountains.

This article might be indefinitely prolonged and extracts from one medical man after another given. Let it suffice, therefore, to quote a few words of the late Dr. Andrew Combe, who, in writing to a friend, says, "If I must forego the pleasures of home, it is better to resort at once to the *most* advantageous climate than to adopt the half-measure of going to Italy, Jersey or the south of England."

Now a few lines regarding sea-sickness. Let the medical adviser give an efficient aperient two or three days before the patient starts and another on arrival on board the steamer, and let the patient aid this treatment by eating sparingly of simple food for his last few days on shore.

When attacked by vomiting the greatest comfort is to be found in lying down. A belt drawn tightly round the stomach is at times a relief. As a remedy a solution containing bicarbonate of soda, chloroform or bromide of potash and sal volatile is of great assistance. Efforts should be made to keep the digestive organs at work and for this purpose a few apples and dry biscuits are in every way most convenient. It is rarely that sickness gives much trouble after the second day.

Doctors will be found practising in Madeira, Teneriffe and Grand Canary, who speak English, French and German.

CIGARS.—In order that visitors should not carry away a false impression regarding the cheap cigars which can be obtained in the Canaries, reference should be made to the remarks on tobacco in the commercial section. Few cigars are now made from Canary tobacco proper, though the efforts of some years ago to grow tobacco as an agricultural product first caused the manufactories of cigars to be started. At present leaf is imported from all parts of the world, and tobaccos from Havana, the Dutch colonies, the Philippines, &c., &c., are most skilfully blended and turned into a good reliable cigar, inferior only to the best brands from the Havana.

These are made in all shapes and sizes from the "Republicanos Federales," generally called "Twisters" (of which many are vastly superior to the majority of what are known as Havanas in London) to the "Regalia Imperial," $5\frac{1}{2}$ inches long, of which a hundred weigh $2\frac{3}{4}$ lbs., or to the little "Operas," 3 inches long and weighing scarcely 12 ounces.

The writer does not, as a rule, mention advertisements in the body of the book but, as readers and friends have constantly asked him what is the best way to obtain Teneriffe cigars in England, he thinks it advisable to call their attention to the facilities offered by Messrs. E. A. da Costa and Co., of Liverpool. It is impossible to import a box or two at a time because of the customs regulations and, even if this were done, the trade discount could not be obtained and the expenses of carriage would be too great. The cigars mentioned are as good as can be desired and are sold at little more than the island price plus the duty. Any of the manufactures advertising are glad to give the names of their agents on application, by letter or personally (*see* heading "Cigars" in advertisement index).

The cigar industry in the Canaries is not merely owing to the low duty on tobacco and to the local cheapness of labour, but also to the climate, which is found to be especially favourable to their manufacture.

COINAGE.

PORTUGUESE MONEY USED IN MADEIRA.

(taken at the official rate of exchange of 4\$500 to the £ sterling. With the exchange at 5\$000 the dollar is worth only 4s., and with exchange at 6\$000 only 3s. 4d. and so on. It is impossible to state all these amounts which the visitor must work out for himself.)

| | | | |
|---------|---|------------|--|
| Copper. | { | 3 Reis = | $\frac{4}{25}$ d. |
| | | 5 „ = | $\frac{4}{15}$ d. |
| | | 10 „ = | $\frac{8}{15}$ d. |
| | | 20 „ = | $1\frac{1}{15}$ d. |
| | | 40 „ = | $2\frac{2}{15}$ d. |
| Silver. | { | 50 Reis = | $2\frac{2}{3}$ d. |
| | | 100 „ = | $5\frac{5}{16}$ d. (called a bit or testaõ) |
| | | 200 „ = | $10\frac{2}{3}$ d. |
| | | 500 „ = | 2s. $2\frac{2}{3}$ d. |
| Gold. | { | 1 Dollar = | 4s. $5\frac{1}{3}$ d. (also called a Pataca) |
| | | 2 „ = | 8s. $10\frac{2}{3}$ d. |
| | | 5 „ = | £1 2s. $2\frac{2}{3}$ d. |
| | | 10 „ = | £2 4s. $5\frac{1}{3}$ d. |

English sovereigns and half-sovereigns used to pass current in ordinary transactions as 4\$500 and 2\$250 respectively. Portuguese gold coins were always rare and are now never seen, all gold being snapped up at once at a premium, either for hoarding or for export to Lisbon.

SPANISH MONEY USED IN THE CANARY ISLANDS.

(Taken at the rate of exchange of 25 pesetas to the £ sterling. With the exchange at 10 % premium = $27\frac{1}{2}$ peseta; at 20 % premium 30 pesetas and so on for all component parts.)

| | | | |
|---------|---|---|-----------------------------|
| Copper. | One centimo = 100 to a peseta | | |
| | Half a cuarto = about $1\frac{1}{2}$ centimos | | |
| | Two centimos = 50 to a peseta | | |
| | One centimo de escudo = $2\frac{1}{2}$ centimos, 100 to an escudo | | |
| | One cuarto = about 3 centimos | | |
| | Five centimos = 20 to a peseta | | |
| | Two cuartos = about 6 centimos | | |
| Silver. | Two centimos = 10 to a peseta = about 1 penny | | |
| | One real de vellon = 25 centimos | | |
| | One fisca = about 31 centimos, or $10\frac{1}{2}$ cuartos | | |
| | One real de plata = about 47 centimos, or 16 cuartos | | |
| | One half peseta = 50 centimos | | |
| | Two fiscas = about sixpence, $62\frac{1}{2}$ centimos | | |
| | One peseta = 1 franc | | |
| | One toston = 1 shilling, or 125 centimos | | |
| Gold. | Two pesetas = 68 cuartos | | |
| | One escudo = $2\frac{1}{2}$ pesetas, or 2 shillings, or half-dollar | | |
| | One dollar = 5 pesetas, or 4 tostones | | |
| | One gold dollar = 5 pesetas | | |
| | Two gold dollars = 10 pesetas | | |
| | Four | " | = 20 " or 16 shillings |
| | Five | " | = 25 " or one sovereign |
| | Eight | " | = 40 " or one pound twelve |
| | Sixteen | " | = 80 " or three pounds four |

The coinage is in a state of transition and is rather difficult to understand. The rates at which pesetas, reales de plata, cuartos, and tostones are exchanged against one another cannot be made to tally exactly.

MEASURES.

PORTUGUESE.

A few weights and measures are: One plegada = 1.102 inches; one covado = $26\frac{1}{4}$ inches; one vara = about 43 inches; one league = 6760 yards; one acre = 5.16 alqueires;

one alqueire = 0.1938 of an acre, or 0.04789 of a hectare; one arrotel or libra = 1.0011 pounds avoirdupois; one arroba = 32.035 pounds; one almude = 3.88784 Imperial gallons; one barril = $7\frac{2}{3}$ gallons; one pipe of wine = 92 Imperial gallons, or 418 litres; one alqueire = 1.55 pecks; one moio = $23\frac{1}{4}$ bushels.

SPANISH.

Twelve pulgadas = 11.128 inches; one vara = 33.141 inches, or $83\frac{1}{2}$ centimetres; one hundred Spanish libras (a quintal) = 101.48 English pounds; one fanega (of wheat) = $10\frac{1}{8}$ -110lbs.; (of lime) = about 80lbs; (of maize) = about 130lbs &c.; an arroba = 25 libras; 132920 varas = one degree; one degree = 20 leguas.

| | | | |
|-----------------------------|------------|------------------|----------------------|
| One fanegada in Teneriffe | ... | = 52 ares | ·4829 = 1·2969 acres |
| „ Grand Canary | = 55 „ | ·365 = 1·36 „ | |
| „ La Palma | ... = 52 „ | ·5763 = 1·292 „ | |
| „ Lanzarote & Fuerteventura | = 136 „ | ·9591 = 3·3844 „ | |

The measure known as the alqueire and the fanegada mean, or once meant, a space of land on which an alqueire or a fanega of wheat might be sown broadcast, and are in themselves a species of valuation of the capability of the soil.

The *French metric* system used in all the islands is here compared with the English as regards a few of the units: One metre = 39.371 inches. 8 kilometres, roughly speaking, equal 5 miles. One litre = 1.76 pints. One gramme = 15.4323 grains Troy. One hectare = 2.471 acres. One are = 119.6033 sq. yards or $\frac{1}{100}$ of a hectare. One kilogramme = 2.20462 lbs. Avoirdupois; 70 kilos = (approximately) 154 lbs. or 11 stone.

THERMOMETRICAL DEGREES.

To reduce Fahrenheit to Reaumur, deduct 32° , multiply the remainder by 4, and divide by 9, Fahrenheit to Centigrade, deduct 32° , multiply by 5, and divide by 9.

POST AND TELEGRAPH.

Madeira, Teneriffe, Grand Canary, Lanzarote, and La Palma are all connected by telegraph with Europe, and are also part of the postal union ($\frac{1}{2}$ oz. $2\frac{1}{2}$ d., Post Cards 1d.). The postal service is not well conducted.

MADEIRA—*Inland Postage* (15 grammes) 25 reis. Post Cards, 10 reis. Newspapers, each 50 grammes, $2\frac{1}{2}$ reis. The same rates apply to Portugal, the Azores, Spain and the

Canaries (viâ Lisbon). Parcel post (limit of weight 3 kilos ; of size 20 decimetres cubic and 60 centimetres largest measurement). In the island, 200 reis ; to Portugal and the Azores, 250 reis ; Spain, 400 reis.—*Postal Union*. Letters, 50 reis ; Cards, 20 reis ; newspapers (per 50 grammes), 10 reis.—India, West Coast of Africa, West Indies, Australia, &c., and Natal. Letters, 100 reis ; Cards, 30 reis ; Newspapers, 20 reis (50 gs.).—South Africa (except Natal), Ascension, St. Helena. Letters, 150 reis ; cards, 30 reis ; newspapers, 20 reis. Parcel post (same limits). Germany (according to the route of steamer) 450 to 650 reis ; France, 450 to 550 reis ; Belgium, 550 to 600 reis ; England, 600 to 750 reis ; West Coast of Africa, 1150 to 1300 reis ; Cape Colony, 1650 to 1800 reis ; Natal, 1850 to 2000 reis. Letters insufficiently stamped are not delivered to some of the more remote countries.

Telegrams : Inland, 60 reis the first word and 10 reis per word afterwards ; to Portugal, 186 reis per word ; Spain, 318 reis ; Canary Islands, 462 reis ; England, 342 reis ; France, 444 reis ; Germany, 468 reis ; Italy, 414 reis ; United States, 500-670 reis ; Cape Colony and Natal (by S. Vincent), 2430 reis ; Delagoa Bay, 2652 reis.

CANARY ISLANDS—*Inland or Inter-insular Postage*. Letters (15 grammes), 15 centimos ; Post Cards, 10 c. ; newspapers, 1 c. each. The same rates apply to Spain.

Postal Union which includes S. Africa and nearly the whole world. Letters, 25 centimos ; Post Cards, 10 c. ; newspapers and samples (each 50 grammes), 5 centimos.

Telegrams—Inland, 50 centimos for 15 words and addl. words 5 c. each.—Inter-insular, 2 pesetas for 15 words and add. words 15 c. each ; to Spain, 4 pes. for 15 words and add. words 30 c. each. Besides this there is a tax of 5 c. on all telegrams.

England, 1 peseta per word ; France, 80 centimos ; Germany, 85 c. ; Italy, 90 c. ; Portugal 70 c. ; Madeira, 2 pes. ; South Africa, 10.07½ to 10.27½ pesetas ; Senegal, 95 c. ; Bathurst, 3 pes. 05 c. By Cadiz and Eastern line :—England the same ; France, 1 pes. 14 c. ; Germany 1.18½ ; Italy, 1.18 ; Portugal 0.95.

There is no parcel post to the Canaries, and packets entering Madeira are sometimes subjected to unpleasant custom house formalities.

Those wishing to send parcels will find Messrs. Forwood Bros. & Co., of London, or Messrs. Elder, Dempster & Co., of Liverpool and London, both reasonable and obliging.

DIFFERENCE IN TIME.

The time in Funchal is 1 hr. 7 m. 40 sec. later than in London; in Valverde, Hierro, 1 hr. 11 m. 20 sec.; in Santa Cruz, La Palma, 1 hr. 10 m.; in S. Sebastian, Gomera, 1 hr. 8 m. 40 sec.; in Santa Cruz of Teneriffe, 1 hr. 5 m. 12 sec.; in Orotava, 1 hr. 6 m. 20 sec.; in Las Palmas, Grand Canary, 1 hr. 1 m.; in Puerto Cabras, Fuerteventura, 55 m. 12 sec.; and in Arrecife, Lanzarote, 54 m. 20 sec.

VOCABULARY

of a few words which will be found constantly used in this book in preference to their English equivalents.

PORTUGUESE.—Ribeira, a large ravine or stream.—Ribeiro, the same but smaller.—Arco, Lombo, a mountain spur.—Levada, an aqueduct.—Encumiada, the summit of a range of hills or mountains.—Lagôa, a crater with water in it.—Quinta, a farm or villa.—Achada, a small plain.—Bocca, a gap or mouth.—Caminho, a road.—Capella, Ermida, a chapel.—Igreja, a church.—Ponta, a cape.—Porto, a port.—Praça, a square.—Rua, a street.—Pinheiral, a pine forest.—Curral, a cattle fold.—Vereda, a mountain track.—Cidade, a city.—Villa, a town.—Freguezia, a parish.—Furado, a tunnel through rock.

SPANISH.—Patio, a courtyard.—Azotéa, a flat roof.—Calle, a street.—Barranco, a ravine.—Carretera, a carriage road.—Caldera, a crater.—Monte, uncultivated mountain land.—Monte Verde, the same, covered with heather or shrubs.—Pinar, a pine forest.—Cumbres, the summit of a range of hills or mountains.—Finca, a farm or villa.—Albarda, a pack saddle.—Arriero, a mule boy.—Venta, a wine shop.—Atarjéa, acéquia, an aqueduct.—Ciudad, a city.—Villa, a town.—Pueblo, a village.—Camino real, the king's high bridle road.—Malpais, country covered with lava, &c.—Fielato, an octroi or municipal custom-house.—Mina, a tunnelled spring of water.—Carro, a waggon, cart.—Iglesia, a church.—Capilla, Ermita, a chapel.

Remember that in Spanish, among the guides, *volcan* does not mean a volcano, but the lava which flows from it. The volcano itself is called Caldera, Montañeta, &c., &c.

A VOCABULARY OF WORDS NECESSARY IN SPEAKING TO SERVANTS, &c.

*English.**Portuguese.**Spanish.*

Bacon
Basin
Bed

o toucinho
a bacia
a cama

el tocino
la palangana
la cama

| <i>English.</i> | <i>Portuguese.</i> | <i>Spanish.</i> |
|------------------|--------------------|---------------------|
| Beef | a carne de vacca | la carne de vaca |
| Blanket | o cobertor | la manta |
| Bread | o pão | el pan |
| Butter | a manteiga | la manteca |
| Candle | a vela | la vela |
| Chair | a cadeira | la silla |
| Chamber pot | o bacio | la escupidera |
| Chicken | a gallinha | la gallina |
| Coffee | o café | el café |
| Counterpane | a colcha | la colcha |
| Cup | a chicara | la taza |
| Dirty | sujo | sucio |
| Drink | beber | beber |
| Eat | comer | comer |
| Egg | o ovo | el huevo |
| Envelope | o sobrescripto | el sobre |
| Fish | o peixe | el pescado |
| Fork | o garfo | el tenedor |
| Fruit | a fructa | la fruta |
| Glass | o copo | el vaso, la copa |
| Jam | a jelêa | el dulce |
| Jug | o jarro | el jarro |
| Knife | a faca | el cuchillo |
| Lamp | o lampeão | el quinqué |
| Matches | os phosphoros | los fosforos |
| Mattress | o colchão | el colchon |
| Meat | a carne | la carne |
| Milk | o leite | la leche |
| Mirror | o espelho | el espejo |
| Mosquito curtain | o mosquiteiro | el mosquitero |
| Mutton | o carneiro | la carne de carnero |
| Paper | o papel | el papel |
| Pillow | a almofada | la almohada |
| Plate | o prato | el plato |
| Postage stamp | sellos do correiro | sellos |
| Sheet | o lençol | la sábana |
| Sleep | dormir | dormir |
| Soap | o sabão | el jabon |
| Soup | a sopa | la sopa |
| Spoon | a colher | la cuchara |
| Sugar | o açúcar | el azucar |
| Table | a mesa | la mesa |
| Tea | o chá | el té |
| Veal | a vitella | la ternera |
| Wake | accordar | despertar |
| Wine | o vinho | el vino |

A FEW PHRASES NECESSARY TO THOSE MOVING ABOUT.

*English.**Portuguese.**Spanish.**On the Steamboat. A bordo do vapor. En el vapor.*

| | | |
|---|--|---|
| I want a boat to go on shore ; how much ? | Preciso d'um barco para ir á terra ; quanto é ? | Quiero un bote para ir á tierra ¿ cuanto cuesta ? |
| How much to go and return ? | Quanto é para ir e voltar ? | ¿ Quanto cuesta para ir y volver ? |
| This is my luggage, how much will it cost ? | Esta é a minha bagagem, quanto quer para leval-a ? | Este es mi equipage, ¿ cuanto cuesta llevarlo ? |
| That is too much and more than I will give. | Isso é muito, É mais do que eu quero dar. | Es muy caro ; no pago tanto. |
| All right, you can take it. | Bem, póde leval-a. | Esta bien, llévelo. |

*On Shore.**Em terra.**En tierra.*

| | | |
|---|--|--|
| Take my luggage to— | Leve a minha bagagem para— | Lleve mi equipage á— |
| Which is the way to— | Por onde se vai para— | ¿ Por donde se va á— |
| I want a carriage to go to . . . | Quero uma carruagem para ir a . . . | Quiero un coche para ir á . . . |
| I want a horse to go to— | Quero um cavallo para ir a— | Quiero un caballo para ir á— |
| I want a donkey to go to— | Quero um burro para ir á— | Quiero un burro para ir á— |
| I want a mule to go to— | Quero uma mula para ir a— | Quiero un mulo para ir á— |
| I want a camel to go to— | Quero um camêlo para ir a— | Quiero un camello para ir á— |
| To take a drive (or ride) | Dar um passeio | Para dar un paseo |
| We are two [three] [four] [five] persons | Nós somos dois, (or duas), [trez] [quatro] pessoas | Somos dos [tres] [cuatro] [cinco] personas |
| We want two ladies' saddles | Queremos duas selas para Senhora | Queremos dos sillas para Señora |
| We want pack animals | Queremos animaes de carga | Queremos bestias de carga |
| We want a guide to take us round the town | Queremos uma pessoa que nos mostra a cidade | Queremos un guia para que nos enseñe la ciudad |
| (The custom house is best left to the proprietors of the hotels.) | | |

*In the Hotel.**No Hotel.**En la Fonda.*

| | | |
|--|--|--|
| Have you a bed- room for me (for us) | Tem um quarto para mim (nós)? | ¿ Hay una habitacion para mi (para nosotros) ? |
| We want single } double } beds | Queremos camas pequenas—camas de casal | Queremos camas de una persona — de dos personas |
| On the first } second } floor third } | No primeiro } segundo } andar terceiro } | En el primer } segundo } piso tercer } |
| The room is too small [too ex- pensive] | O quarto é muito pequeno [muito caro] | La habitacion es muy pequeña [muy cara] |
| I want some hot water | Quero agua quente | Quiero agua caliente |
| I want some cold water | Quero agua fria | Quiero agua fria |
| I want a hot bath | Quero banho d'agua quente | Quiero un baño caliente |
| I want a cold bath | Quero banho d'agua fria | Quiero un baño frio |
| I want drinking water | Quero agua de beber | Quiero agua para beber |
| I want clean towels | Quero toalhas limpas | Quiero tohallas lim- pias |
| I want bath towels | Quero toalhas de banho | Quiero tohallas de baño |
| At what time is breakfast ? | A que horas é o almoço ? | ¿ Á que hora se almuerza ? |
| At what time is lunch ? | A que horas é o lunch ? | ¿ Á que hora se toma lunch ? |
| At what time is dinner ? | A que horas é o jantar ? | ¿ Á que hora se come ? |
| Call me at four [five] [six] [seven] [eight] | Chame me ás quatro [ás cinco] [as seis] [ás setc] [ás oito] | Despiérteme á las cuatro [cinco] [seis] [siete] [ocho] |
| Where is the lava- tory ? | Onde é a casinha ? | ¿ Donde esta el ex- cusado ? |

| <i>Walks and Expeditions.</i> | <i>Passeios e Expedicoes.</i> | <i>Paseos y Ex- pediciones.</i> |
|---|--|---|
| How far is it to the spring? | Qual é a distancia d'aquí á nascente? | ¿ Que distancia hay de aquí á la fuente? |
| How far is it to the path leading to... | Qual é a distancia ao caminho que dá para... ? | ¿ Que distancia hay al camino que va á... ? |
| How far is it to the mountain of... ? | Qual é a distancia ao monte de... ? | ¿ Que distancia hay á la montaña de... ? |
| How far is it to the top ? | Qual é a distancia ao Pico ? | ¿ Que distancia hay á la cumbre ? |
| How far is it to the bottom ? | Qual é a distancia ao fundo ? | ¿ Que distancia hay hasta abajo ? |
| How far is it to the crater ? | Qual é a distancia á cratera ? | ¿ Que distancia hay á la caldera ? |
| How far is it to the stream of lava ? | Qual é a distancia á corrente de lava ? | ¿ Que distancia hay al volcan ? |
| How far is it to the church ? | Qual é a distancia á egreja ? | ¿ Que distancia hay á la Iglesia ? |
| How far is it to the valley ? | Qual é a distancia ao valle ? | ¿ Que distancia hay al valle ? |
| How far is it to the view of... ? | Qual é a distancia á vista de... ? | ¿ Que distancia hay á la vista de... ? |
| How far is it to the ascent of... ? | Qual é a distancia á subida de... ? | ¿ Que distancia hay á la subida de... ? |
| How far is it to the descent to... ? | Qual é a distancia á descida de... ? | ¿ Que distancia hay á la bajada de... ? |
| How far is it to the (mountain) spur? | Qual é a distancia ao lombo de ? | ¿ Que distancia hay al lomo de ? |
| How far is it to the sea ? | Qual é a distancia ao mar ? | ¿ Que distancia hay al mar ? |
| How far is it to the inn ? | Qual é a distancia á hospedaria ? | ¿ Que distancia hay á la fonda ? |
| How far is it to the drinking shop ? | Qual é a distancia ao botequim ? | ¿ Que distancia hay á la venta ? |
| How far is it to the village of... ? | Qual é a distancia á villa de... ? | ¿ Que distancia hay al pueblo de... ? |
| How far is it to the town of... ? | Qual é a distancia á villa de... ? | ¿ Que distancia hay á la villa de... ? |

| | | |
|--|---|---|
| How far is it to the city ? | Qual é a distancia á cidade ? | ¿ Que distancia hay á la ciudad ? |
| Tie the blanket on to the pack saddle. | Amarre o cobertor á sella. | Sujete la manta en la albarda |
| Do you think it will be clear at the top ? | Julga estar claro lá em cima ? | ¿ Cree V ^d que estará claro por encima ? |
| Do you think it will rain to-day ? | Julga que choverá hoje ? | ¿ Cree V ^d que llovera hoy ? |
| Is the road bad ? | O caminho é máo ? | ¿ Es malo el camino ? |
| Is the road very bad ? | O caminho é muito máo ? | ¿ Es muy malo el camino ? |
| Can animals pass ? | Os animaes podem passar ? | ¿ Pueden pasar bestias ? |
| Are you sure you know the way ? | V ^{cê} tem a certeza que conhece o caminho ? | ¿ Esta V ^d seguro que conoce el camino ? |
| I shall not pay you if you don't. | Não lhe pagarêi se V ^{cê} não souber | No le pagaré á V ^d si no sabe. |
| Where is the market ? | Onde é o mercado ? | ¿ Donde está la plaza ? |
| Where is the post office ? | Onde é o correio ? | ¿ Donde está el correo ? |
| Where is the chemist ? | Onde é a botica ? | ¿ Donde está la botica ? |
| Where is the club ? | Onde é o club ? | ¿ Donde está el casino ? |

PRONUNCIATION.

PORTUGUESE.—*lh* is pronounced like the *ll* in million; *nh* like the *n* in renew; *ç* like *s*; *ão* (with a til) like *an*; *ch* and *j* soft as in English; vowels are broad and the *u* is like *oo* in moon. The people in Madeira drop the ends of words more than is the case in Lisbon. An *accent over a vowel* indicates that that vowel forms the principal syllable of a word.

SPANISH.—*ll* is pronounced like the *ll* in million; *ñ* (with til) like the *n* in renew; *ch* soft as in English; *j* like *h*; *g* like *h* before *i* and *e* but hard before *a*, *o* and *u*; *h* is not sounded; *qu* is hard like *k*; *cu* is soft like *qu* in quilt; vowels are broad and the *u* is like *oo* in moon. All letters are sounded, including the *final r*. An *accent over a vowel* means the same as in Portuguese.

A few books which treat of Madeira, or of the Canary Islands.

ENGLISH.

- “Madeira”: its Climate and Scenery, by James Yates Johnson.
 “The Climate and Resources of Madeira.” Dr. M. Grabham.
 1860.
 “Teneriffe: an Astronomer’s Experiment.” C. Piazzzi
 Smyth. 1858.
 “Tenerife and its Six Satellites.” Mrs. Olivia Stone. 1887.
 “Rides and Studies in the Canary Islands.” Charles
 Edwardes. 1887.
 “History of the Canary Islands.” George Glas. 1764.
 “The Health Resorts of the Canary Islands.” Dr. J. Cleashy
 Taylor. 1893.
 “Orotava as a Health Resort.” Dr. George Perez. 1893.
 “Coleoptera Atlantidum.” Wollaston. 1865.
 “Testacea Atlantica.” Wollaston. 1878.
 “Insecta Maderensia.” Wollaston.
 “On the geographical distribution of Testaceous Mollusca,
 &c.” R. M’Andrew. 1854.
 “The Principles of Geology, Vol. II., Chapter xli.” Sir
 Charles Lyell. 1868.

Full accounts of the birds of the Canary Islands are given
 in a series of papers in the “Ibis” for 1889-90, by Canon
 Tristram and Mr. Meade Waldo.

FRENCH.

- “Description Physique des Iles Canaries.” L. von Buch.
 1836. From the German.
 “Voyage aux Régions Equinoxiales.” Alex. von Humboldt.
 From the German.
 “Les Iles Fortunées.” Pegot-Ogier. 1869.
 “Histoire Naturelle des Iles Canaries.” Barker Webb and
 S. Berthelot. 1839. (Perhaps the best general work
 extant).
 “Ethnographie et Annales de la Conquête. Sabino Berthelot.
 1839.
 “Madère.” Station Medicale Fixe, by Dr. C. A. Mourão
 Pitta. 1889.

GERMAN.

- “Ornithologische Forschungsergebnisse. Dr. A. Koenig. 1890.
 “Geol. Beschreibung der Inseln Madeira, &c. Dr. G. Hartung. 1864.

SPANISH.

- “Noticias Generales de las Islas Canarias.” Viera y Clavijo. 1772.
 “Un diccionario de Historia Natural de las Canarias. Viera y Clavijo. 1772.
 “Estudios Históricos, &c., de las Islas Canarias.” Dr. Chil y Naranjo. Two volumes only complete.
 “Climatoterapia de la Tuberculosis, &c.” Dr. T. Zerolo.
 “Orotava—Vilaflor.” (Pamphlet.) Dr. T. Zerolo.
 “Histórias de la Conquista de las Islas Canarias,” by the following authors:—Fr. Pedro Bontier & Juan le Verrier, 1630; Fr. Abreu Galindo, 1632; Nuñez de la Peña, 1676; Pedro A. del Castillo, 1739; Fr. José de Sosa, 1785.
 “História de la Gran Canaria,” 1860; “História de la Inquisicion en las Islas Canarias,” 1874; “História General de las Islas Canarias” (in course of production), by Agustin Millares.
 “Los Germanos en las Islas Canarias,” by F. von Loehér.
 “Cronología Religiosa de las Islas Canarias,” by A. Diaz Nuñez, 1865.
 “Diccionario Estadístico Administrativo de las Islas Canarias,” by Pedro de Olive, 1865 (the most complete statistical work extant).

MAPS.

Madeira. The Admiralty Charts, or Capt. A. T. E. Vidal's Surveys, or Stanford's 10s. Map (J. M. Ziegler), with panoramic outlines.

Canary Islands.

- M The Admiralty Charts. (Unsatisfactory for the interior.)
 Imp. Falconer, Paris (gravé chez L. Wuhler, Gay Lussac, 52). (Good.)
 Cartas por el Capitan A. T. E. Vidal, Direccion de Hidrografía, Madrid.
 Islas Canarias, by Francisco Coello, Madrid.
 Tenerife Geologisch, &c., dargestellt, 1867, by von Fritsch, Hartung and Reiss. (Exhaustive.) J. Wurster & Co., Winterthur.

METEOROLOGICAL OBSERVATIONS.

In adding a few Meteorological statistics to his book the author is complying with a widely expressed wish, and trusts that the figures will prove of service to his readers. He takes this opportunity also of gratefully acknowledging the kindness of those gentlemen who were good enough to supply them.

| FUNCHAL, MADEIRA. | | | | | October | November | December | January | February | March | April | May | No. of years of observations |
|----------------------|---|-----------------|--------------|--------|---------|----------|----------|---------|----------|-------|-------|------|------------------------------|
| Temperature. | Shade. | Mean of | Mean Daily | ... | 68°6 | 65°0 | 61°8 | 60°3 | 60°3 | 60°8 | 62°4 | 64°4 | 25 |
| " | " | Minimum | " | ... | 63°9 | 60°5 | 57°3 | 55°7 | 55°1 | 55°2 | 57°6 | 59°6 | 19 |
| " | " | Range | " | ... | 9°9 | 9°8 | 9°3 | 9°5 | 10°0 | 9°9 | 9°4 | 9°2 | " |
| Moisture of Atmosph. | | Rel. Humidity | " | ... | 66°0 | 68°3 | 68°2 | 69°0 | 66°0 | 63°4 | 65°9 | 65°5 | " |
| Rain | Amt. of | | Mean Monthly | Inches | 2°30 | 4°78 | 4°10 | 4°58 | 2°64 | 2°83 | 1°75 | 1°07 | " |
| " | No. of days on which rain fell ('01 of an inch or more) | | " | — | 8°7 | 10°0 | 10°7 | 12°0 | 6°7 | 8°4 | 7°0 | 5°7 | 11 |
| " | " | during day time | " | — | — | — | — | — | — | — | — | — | — |

Sunshine records have not been taken in Madeira. A whole day without cloud is rare, but fogs or mists are practically unknown, except in the mountains. In the winter banks of clouds and clear intervals frequently succeed one another within a few minutes, and at such times the sunshine is very hot.

Absolute Maximum, July, 1882, 90°5. Absolute Minimum, March, 1883, 45°7.

Temperature of Sea at Funchal, Maximum 75°, Minimum 63°.

Total annual rainfall, 26°71 inches (17 years observations).

Observations were taken at an altitude of 82-89 feet, at 9 a.m. and 9 p.m., in the years 1826 to 1831, and 1865 to 1883, by the Posto Meteorologico, Fortaleza, Funchal, and by Drs. Heineken and Renton.

NOTE.—When required the mean maximum can always be found by adding the mean daily range to the mean minimum.

LAS PALMAS, GRAND CANARY.

| | | | | | | October | November | December | January | February | March | April | May | No. of years of observations |
|----------------------|---|-----------------|--------------|--------------------------|----------|---------|----------|----------|---------|----------|-------|-------|------|---------------------------------|
| Temperature. | Shade. | Mean of | Mean Daily | ... | Fo | 71'4 | 67'6 | 64'7 | 62'3 | 62'9 | 63'0 | 64'6 | 66'5 | 5 |
| " | " | Minimum | " | ... | " | 66'8 | 63'2 | 59'7 | 57'8 | 57'9 | 58'8 | 60'0 | 61'9 | " |
| " | " | Range | " | ... | " | 9'2 | 8'9 | 9'0 | 9'1 | 10'1 | 9'5 | 9'2 | 9'2 | " |
| " | Sea. | Surface | " | ... | " | 72'4 | 70'1 | 67'5 | 65'7 | 65'1 | 65'4 | 65'9 | 67'3 | " |
| Moisture of Atmosph. | | Rel. Humidity | " | { Day ... { Night ... | Sat. 100 | 68 | 66 | 65 | 68 | 66 | 66 | 65 | 65 | " |
| Rain. | Amt. of | | Mean Monthly | | " | 76 | 73 | 75 | 73 | 75 | 74 | 74 | 74 | " |
| " | No. of days on which rain fell ('or' or more) | | | | Inches | 1'06 | 1'75 | 1'57 | 1'68 | '57 | '79 | '40 | '35 | " |
| " | " | during day time | | | — | 6 | 11 | 12 | 10 | 5 | 7 | 4 | 2 | " |
| Sunshine | | Total amount | | | Hours | 189 | 165 | 161 | 168 | 183 | 189 | 190 | 218 | " |

Absolute Maximum, 85°5, October, 1888, and August, 1891. Absolute Minimum, 47°, February, 1884.

Total annual rainfall, 8.348 inches.

Observations were taken at 9 a.m., noon, 3 p.m., and 9 p.m., by Dr. J. Cleasby Taylor, M.B., C.M. Edin. Univ., M.R.C.S., Eng., and the absolute minimum by A. H. Bechervaise, Esq.

SANTA CRUZ, TENERIFFE.

| SANTA CRUZ, TENERIFFE. | | | | | October | November | December | January | February | March | April | May | No. of years of observations |
|--|---|--------------|------------|--------|---------|----------|----------|---------|----------|-------|-------|------|---------------------------------|
| Temperature. | Shade. | Mean of | Mean Daily | ... | 71°0 | 69°0 | 66°0 | 74°0 | 63°0 | 64°0 | 65°0 | 68°0 | 8 |
| " | " | Minimum | " | ... | 63°0 | 59°0 | 56°0 | 56°0 | 53°0 | 55°0 | 57°0 | 59°0 | " |
| " | " | Range | " | ... | 15°0 | 15°0 | 15°0 | 13°0 | 15°0 | 15°0 | 14°0 | 15°0 | " |
| Moisture of Atmosph. | Rel. Humidity | " | " | ... | 67 | 64 | 67 | 73 | 66 | 66 | 62 | 60 | 9 |
| Rain. | Amt. of | Mean Monthly | | Inches | 0.98 | 1°59 | 2°48 | 1°97 | 1°64 | 1°53 | 0°58 | 0.31 | 22 |
| " | No. of days on which rain fell ('or" or more) | " | " | — | 7 | 6 | 9 | 11 | 9 | 8 | 7 | 2 | " |
| " | " during day time | " | " | — | 5 | 4 | 5 | 7 | 7 | 5 | 5 | 1 | " |
| State of Sky (0 clear, 10 fully covered) | ... | ... | ... | — | 4 | 4 | 5 | 5 | 4 | 4 | 4 | 3 | 5 |

Absolute Maximum, 30th July, 1888, 93°9°. Absolute Minimum, 17th January, 1885, 46°8°.

Total annual rainfall, 11.72 inches (17 years)

Observations were taken at an altitude of 118 feet, at 11 a.m. and 5 p.m., in the years 1880 to 1889 (partial). Rain, 1867 to 1889, by Sr. D. Francisco de Aguilar y Puentes, Ayudante de Obras Publicas, Santa Cruz de Tenerife.

| PUERTO DE OROTAVA, TENERIFFE | | | | | | October | November | December | January | February | March | April | May | No. of years of observations |
|------------------------------|---|--------------|------------|-----|----------|---------|----------|----------|---------|----------|-------|-------|------|------------------------------|
| Temperature. | Shade. | Mean of | Mean Daily | ... | Fo | 70'9 | 64'7 | 61'2 | 59'6 | 60'4 | 62'0 | 62'8 | 64'7 | 5 |
| " | " | Minimum | " | ... | " | 63'2 | 58'7 | 54'7 | 53'7 | 53'9 | 55'4 | 56'6 | 57'9 | " |
| " | " | Range | " | ... | " | 15'7 | 12'5 | 12'2 | 12'9 | 12'6 | 13'2 | 12'2 | 13'0 | " |
| " | Sea. | Surface | " | ... | " | — | — | — | — | — | — | — | — | " |
| Moisture of Atmosph. | Rel. Humidity | " | " | ... | Sat. 100 | 81'0 | 77'4 | 76'0 | 74'9 | 72'6 | 75'0 | 75'0 | 74'2 | " |
| Rain. | Amt. of | Mean Monthly | | | Inches | 2'26 | 2'52 | 3'13 | 2'46 | 1'15 | 1'69 | 1'17 | 0'85 | " |
| " | No. of days on which rain fell ('01" or more) | " | | | — | 9'5 | 9'6 | 11'6 | 8 | 6 | 7'6 | 5 | 3 | " |
| " | " during day time | " | | | — | 2'5 | 5'6 | 7'6 | 4'2 | 1'8 | 1'2 | 2 | 1 | 3 |
| Sunshine | Total amount | ... | | | Hours | 159 | 130 | 137 | 157 | 165 | 175 | 141 | 192 | 5 |

* The Relative Humidity during October, 1889, and October to December, 1890, is believed to be unduly high owing to the unnoticed incrustation of sea salt upon the wet bulb. Observations given were taken at 9 a.m. and 9 p.m., which are not favourable hours. Dr. Hjalmar Ohrvall records of 1883-4 are from 8% to 20% lower. *Note*—The five years observations do not apply to October and May, which have only been taken during four years.

Absolute Maximum, 82°8, September, 1889. Absolute Minimum, 47°5, January, 1890. Total annual Rainfall, 15'34 inches.

Observations were taken at altitudes of 346 feet and of 70 feet, at 9 a.m. and 9 p.m., from November, 1888, till April, 1893, partly by the late Mr. Walter Long-Boreham at San Antonio (346 feet), and partly by Mr. Alfred F. Perry of the Sitio de Cullen (70 feet).

GÜIMAR, TENERIFFE.

(1200 feet.)

| | | October | November | December | January | February | March | April | May | No. of years of observations |
|----------------------|---|--------------|----------|----------|---------|----------|-------|-------|-----|---------------------------------|
| Temperature. Shade. | Mean Daily | ... | Fo | 58'6 | 57'8 | 59'9 | 57'4 | — | — | 1 |
| " | Minimum | ... | " | 52'3 | 52'0 | 53'1 | 50'0 | — | — | " |
| " | Range | ... | " | 12'7 | 11'6 | 13'6 | 14'9 | — | — | " |
| Moisture of Atmosph. | Rel. Humidity | ... | Sat. 100 | 64'5 | 59'5 | 60'3 | 62'0 | — | — | " |
| Rain. | Amt. of | Mean Monthly | Inches | 1'06 | 0'01 | 0'02 | 2'27 | — | — | " |
| " | No. of days on which rain fell ('01" or more) | " | — | 2 | 1 | 1 | 10 | — | — | " |
| " | " during day time | " | — | — | — | — | — | — | — | — |
| Sunshine | Total amount | ... | Hours | 106 | 222 | 174 | 195 | — | — | " |

Absolute Minimum, 44°. Observations were taken at an altitude of 1200 feet, at 9 a.m. and 9 p.m., from December 11th, 1889, to March, 1890, by Dr. A. J. Wharry, M.D., M.R.C.S., L.R.C.P.

| LA LAGUNA, TENERIFFE. (1840 feet.) | | | | | | August | October | November | December | January | February | March | April | May | No. of years of observations |
|--|---|--------------|------------|-----|----------|--------|---------|----------|----------|---------|----------|-------|-------|------|---------------------------------|
| Temperature. | Shade. | Mean of | Mean Daily | ... | Fo | 71.5 | 65.4 | 59.7 | 56.2 | 54.1 | 54.3 | 56.9 | 57.2 | 63.9 | 4 |
| " | " | Minimum | " | ... | " | 60.4 | 56.9 | 52.7 | 48.4 | 46.8 | 45.7 | 47.5 | 49.4 | 52.8 | " |
| " | " | Range | " | ... | " | 22.2 | 16.9 | 14.9 | 15.6 | 14.6 | 17.3 | 18.8 | 15.6 | 19.3 | " |
| Moisture of Atmosph. | Rel. Humidity | " | " | ... | Sat. 100 | 64.3 | 80.4 | 83.2 | 82.9 | 82.8 | 79.7 | 77.3 | 79.7 | 73.9 | " |
| Rain. | Amt. of | Mean Monthly | | | Inches | 0.02 | 2.08 | 6.17 | 2.94 | 6.94 | 3.48 | 2.96 | 3.84 | 0.20 | " |
| " | No. of days on which rain fell ('or' or more) | " | | | — | 0.7 | 9.7 | 15 | 11 | 18 | 11 | 11 | 12 | 3 | " |
| " | " during day time | " | | | — | — | — | — | — | — | — | — | — | — | — |
| State of Sky (0 clear, 10 fully covered) | ... | | | | Hours | 2.7 | 6.6 | 7.4 | 6.7 | 6.6 | 5.9 | 6.2 | 7.0 | 4.7 | 4 |

Absolute Maximum, August, 1885, 104.9.

Absolute Minimum, February, 1886, 36°.

Total rainfall, nine months, 28.63 inches.

Observations were taken at 9 a.m. and 3 p.m., from 1884 to 1888, by the " Instituto " of La Laguna.

| VILAFLO (CHASNA), TENERIFFE. (4,335 feet.) | | | | January | February | March | April | May | August | September | October | November | December | No. of years of observations |
|---|---|--------------|----------------|---------|----------|-------|-------|------|--------|-----------|---------|----------|----------|---------------------------------|
| Temperature. | Shade. | Mean of | Mean Daily ... | 44.9 | 47.6 | 52.5 | 57.8 | 56.8 | 76.7 | 66.8 | 58.0 | 56.2 | 45.2 | 1 |
| | " | Minimum | " ... | 34.3 | 37.9 | 40.8 | 44.7 | 44.5 | 68.4 | 54.7 | 48.3 | 41.4 | 35.8 | " |
| | " | Range | " ... | 16.8 | 16.3 | 19.4 | 21.9 | 20.3 | 13.6 | 18.2 | 17.7 | 21.5 | 16.7 | " |
| Moisture of Atmosph. | Rel. Humidity | " ... | " ... | 71.3 | 62.7 | 61.9 | 56.7 | 63.3 | 35.7 | 53.6 | 70.8 | 66.6 | 86.7 | " |
| Rain | Amt. of | Mean Monthly | " ... | 1.75 | 2.07 | 1.59 | 0.17 | 1.78 | 0.00 | 0.03 | 3.85 | 0.11 | 6.61 | " |
| " | No. of days on which rain fell ("or" or more) | " | " | 9 | 5 | 6 | 1 | 4 | 0 | 1 | 8 | 1 | 15 | " |
| " | " during day time | " | " | 5 | 1 | 5 | 0 | 1 | 0 | 0 | 6 | 1 | 8 | " |
| Sunshine | Total amount | " | " | 156 | 169 | 164 | 206 | 256 | 138 | 275 | 189 | 224 | 123 | " |

Absolute Maximum, September, 1890, 89°. Absolute Minimum, January, 1891, 28°.

Total rainfall, 11 months, 18.01 inches. Observations were taken three, four, and sometimes five times a day, between 8 a.m. and 11 p.m., from the 20th August, 1890, to 15th June, 1891, by Mr. P. R. Bedlington, Assoc. M. Inst., C.F., and in July to September, 1882, a few observations were recorded by Mr. Herman Honegger.

SANTA CRUZ, PALMA.

| Temperature. Shade. | Mean of | Mean Daily | ... | Fo | October | November | December | January | February | March | April | May | No. of years of observations |
|--|---|--------------|-----|----------|---------|----------|----------|---------|----------|-------|-------|------|------------------------------|
| " | Minimum | " | ... | " | 65.7 | 60.4 | 56.7 | 55.7 | 56.2 | 58.4 | 57.8 | 61.1 | " |
| " | Range | " | ... | " | 11.1 | 11.9 | 12.9 | 11.8 | 14.1 | 13.7 | 14.9 | 14.5 | " |
| Moisture of Atmosph. | Rel. Humidity | " | ... | Sat. 100 | 73 | 72 | 75 | 75 | 73.5 | 73.5 | 70 | 67 | 3 |
| Rain | Amt. of | Mean Monthly | ... | Inches | 2.93 | 4.56 | 2.73 | 7.10 | 1.51 | 3.64 | 0.52 | 0.21 | " |
| " | No. of days on which rain fell ('or' or more) | " | " | — | 14 | 15 | 16 | 16 | 10 | 9 | 6 | 3 | " |
| " | during day time | " | " | — | — | — | — | — | — | — | — | — | — |
| State of Sky (0 clear, 10 fully covered) | | ... | ... | — | 5.2 | 5.8 | 5.5 | 6.3 | 4.9 | 4.3 | 3.8 | 4.3 | 3 |

Absolute Maximum, 91° 4, August, 1892. Absolute Minimum, 51.8°, January and February, 1891.

Rainfall, for eight months, 23.20 inches. Observations were taken at 131 feet above the sea, at 7 a.m., 2 p.m., and 11 p.m., from 1858-60 and 1889-93, the last being most complete and made by Sr. D. Sebastian C. Arozena, catedrático de Física y Química del Instituto de Santa Cruz de la Palma.

Anybody who will correct or augment the above tables at any future period will greatly oblige the author, who will be glad to receive and incorporate the records of *bonâ-fide* observations.

Meteorological observations extending over a very short period are sure to be misleading. However, where these only could be obtained, it appeared the proper course to insert them in the hope that some day they may be augmented. The plan adopted, which has been approved of by several medical men as giving all that is absolutely necessary in as short a space as possible, may, perhaps, serve as a basis to those philanthropic residents who find a pleasure in working for the furtherance of scientific knowledge.

Barometrical Readings are not given, but they show, allowing for compensation for temperature, an annual average at the sea level of 30 inches (29.99 to 30.02) in Madeira, and 30.09 (30.08 to 30.10) in the Canaries.

Cases of hæmorrhage will do well to keep quiet when living on the sea level at such times as the barometer stands exceptionally low.

The result of the tables given show that the mean of the *mean monthly temperature* over the eight months from October to May inclusive is—for Santa Cruz (Teneriffe), 67.5°; Las Palmas, 65.4°; Santa Cruz (Palma), 64.4°; Orotava, 63.3°; Funchal, 62.7°; Laguna, 58.5°; Vilaflor, 52.3°.

The mean of the *mean daily range* for the eight months is as follows:—Las Palmas, 9.3°; Funchal, 9.6°; Orotava, 13.0°; Santa Cruz (Palma), 13.1°; Santa Cruz (Teneriffe), 14.6°; Laguna, 16.6°; Vilaflor, 18.8°.

As Laguna and Vilaflor are at present the accepted summer resorts, the figures for the hottest months have been added in these two cases.

It may be taken as granted that a residence on or near the sea level during the summer months is more or less conducive to anaemia. Those, however, who remain for the bathing should choose a breezy situation on the south coast where the bright blue sky renders the heat far less enervating than when confined by clouds. On the shore itself the air is cooled by constant sea breezes, due to an eddy caused by the mountains and the N.E. trade wind. The recuperating effects of the mountain air on a constitution which requires a change is considerable, but a short visit to Europe in the summer is a more certain tonic than six months up in the hills. However the latter is a most delightful way of spending the time and, fine as the climate of the Canaries may be in the winter, it is infinitely finer and more enjoyable in the summer.

The mean percentages of *relative humidity* for eight months, are:—In Santa Cruz (Teneriffe), 65.6; Funchal, 66.5; Vilaflor, 67.5; Las Palmas, 70.2; Santa Cruz (Palma), 72.4; Orotava, 75.7; Laguna, 80.0.

Future observations will confirm or correct the above, the results of the figures having been given as they were obtained. It may however be remarked that the humidity recorded for Funchal is mainly calculated from the figures supplied by the government observatory, which are generally believed to be from 3 to 4 per cent. too low. Those of Orotava are probably 2 per cent. too high or thereabouts for reasons previously stated.

It must also be remembered that the humidity of the day-time and of the night time vary very greatly and that the average result depends upon the hours at which the records are taken. For instance in Las Palmas the saturation during day averages 66 per cent. and during the night 74 per cent., giving a mean of 70 per cent. which might be made to show a very much smaller percentage of moisture if the 9 p.m. reading were omitted.

Amongst the greatest authorities on climate are Dr. Michael Grabham, of Madeira, the author of "The Climate and Resources of Madeira, as regarding chiefly the Necessities of Consumption and the Welfare of Invalids," 1860, a most interesting book; Dr. J. Cleasby Taylor of Las Palmas who has brought out an extended work called "The Health Resorts of the Canary Islands in their Climatological and Medical Aspects" (J. A. Churchill and Co.); and Dr. George Perez of Puerto Orotava, who has published a book called "Orotava as a Health Resort." Dr. Zerolo's works, mentioned in the list, are unfortunately only to be procured in Spanish.

Cases of *malarial fever* which do not improve in the Canaries will do well to try Madeira, a better half-way station for many constitutions enfeebled by residence in Africa.

MADEIRA AND THE CANARY ISLANDS.

CLIMATIC CONDITIONS, WATER SUPPLY, HOTEL AND VILLA ACCOMMODATION, ETC.

HOWEVER accurate the figures may be, machine made records can never hope to give more than a comparative idea of a climate. The thermometer for instance may stand at 51° Fahrenheit on a dry day in England and the human body feel warm, whilst the same number of degrees on the sea level in Madeira and the Canaries will sometimes be attended by rain or great humidity, with a warm upper current, heavy evaporation, reeking damp and general discomfort. So low a level however cannot well occur except at night or in the evening, when an invalid can light a fire or an oil stove or go to bed. The higher the general temperature of the resort chosen, the rarer are such spells of cold weather.

When living in the hills cold and damp are less and less associated according to the altitude chosen and to the special nature of the surroundings. Still, by the sea, cold does not always mean damp, and such extreme instances as those cited may not occur six times in the course of a winter, even in those positions where they are most to be expected.

CLIMATE.—The general characteristics of Madeira are fresh bright days when rain may or may not fall at intervals and fine days, when no rain falls, but the clouds gather round the central mountains and even extend over the sea. The air is sedative and favourable to those who ought to keep quiet. Another special advantage is the almost absolute freedom from dust.

Though situated some two hundred and fifty miles to the N. of Teneriffe, the temperature is but little lower, being maintained nearly constantly at a high degree by the Gulf Stream, which, dividing at the Azores, sweeps southward and envelopes the island in its warm embrace, skirting the Canary Archipelago on its way back towards Central America.

It is hoped that reference to the general climatic map will make the remarks in this section of the book readily intelligible to all.

The Canaries differ in many important particulars. The climate is more exciting than that of Madeira; rainless and cloudless days are more frequent and the temptations to invalids to overdo their strength are consequently greater. There is also more wind and more dust.

Generally speaking those who wish to explore the islands and to visit remote parts should endeavour to give Madeira the most favourable chance, as there is more rainy weather there during the winter than is the case with the Canaries. The tables of figures are of course the best means of ascertaining which month or fortnight is the most likely one to be fine, but no year ever agrees with an average of years, and the tourist will do well to make such arrangements that, when passing Madeira, he can go ashore if the weather happens to be favourable, or, if otherwise, that he can proceed at once to the Canaries and take Madeira on his return. There are such lovely walks and excursions in all the islands that it is worth while to take some little forethought on the subject.

The coldest and rainiest months are generally January and February and the winter season proper extends from the middle of October to the end of April or well into May, the earliest date on which invalids should return to Europe.

The difference between Madeira and the Canaries is very well indicated by the date palm, which, when grown in sheltered positions, bears fruit in both places, although it is only in the Canaries that the fruit will ripen.

Mention may here be made of the fallacy of supposing that great dryness must be most beneficial to all kinds of illnesses. Dense and constant clouds do, however, when stationary, undoubtedly tend to accumulate foul air, more especially immediately below them.

RAINFALL.—That the amount of rain which falls in Madeira is greater than is the case in the Canary Islands is beyond a doubt; it is also certain that, commencing with Fuerteventura on the E., which is the driest, the Canary Islands themselves become gradually damper as the distance from the African desert increases, though probably the N. and W. sides of Teneriffe and the Islands of Gomera, Hierro, and Palma are much on a par with one another in this respect, the proximity of the Peak being an equivalent in the first to the greater influence of the Gulf Stream in the others.

When reviewing the climatic conditions of any one island, regard must also be had to the vegetation found, not only as an indication of what the island can produce, but also as being in itself at times a direct incentive to the accumulation of vapour.

Taking Madeira as the first on the list, we find an elevation of rather over 6,000 feet and a group of mountains, many of which are densely wooded. Next in order comes the western portion of the Canary group, La Palma (7,730 feet), being also well provided with much the same forest trees, though the pine is of a different species (*Pinus canariensis*). We then pass to Gomera (4,400 feet) and Hierro (4,990 feet), both with a considerable rainfall, whilst in the former the giant heather grows to a height seldom seen elsewhere.

The west and north of Teneriffe have a few forests and here a great quantity of moisture is derived from the Peak (12,192 feet), which is covered with snow for the greater part of the year and which, with its surroundings, naturally serves as a constant attraction to clouds or vapour, whether caused by a general disturbance, of which the Peak may be the centre, or by the deflection of the trade wind, of which mention has been made in the hints given to those thinking of starting on expeditions.

In Canary (6,400 feet) a greater extent of forest land would probably be an advantage and lead to a more equable distribution of moisture; but the mountains are still sufficiently high to gather clouds around them, though the number of tanks shows that water in the summer is more precious than farther west. It should here be remarked that the supposed line of perpetual snow is—for Madeira about 11,500 feet, and for the Canaries about 12,500, an elevation very nearly attained in the latter instance.

In Fuerteventura and Lanzarote there are no forests; both are very dry and, except in the northern part of the latter island, which is sparsely provided with moisture, both are entirely dependent upon rain water and tanks, the indigenous plants being puny or even microscopic, whilst little beyond cereals can be grown.

WATER SUPPLY.—Passing to the water supplies, we find in Madeira a soft water, almost without lime, running in open channels and with roads specially engineered to avoid damage by heavy rainfalls. The ravines are, however, dry on the south side, except in the wet months. Complaints recently made regarding the water supply of Funchal have led to improvements. In La Palma the water is very soft, the channels are almost invariably covered in and the barrancos are generally dry, with the exception of that leading out of the Caldera to Tazacorte. The same remarks apply to Gomera, but here, the island being smaller, barrancos are shorter and consequently drier. In Hierro the rainfall is plentiful, but there are practically no springs and water during

summer can only be obtained from tanks. On the western slopes of Teneriffe the water is harder, there are fewer tanks and the watercourses are rarely covered in. In Grand Canary tanks are to be seen everywhere, the channels are open and, being very lengthy, are liable to much vegetable pollution. The previous remarks about Fuerteventura and Lanzarote are sufficient to indicate the nature of the supply in those islands. The filter in general use is the dripstone, well known in the West Indies, but probably inefficient in any bad cases of pollution. To reassure intending visitors it may be stated that the source of the water supply is in most instances greatly superior to that of London and that considerable care is taken that the water running from the drinking fountains should not be contaminated whilst *en route*. It is usual to fetch water from these in barrels. In Las Palmas and Icod however there are iron pipes connecting the town with the spring. Similar iron pipes are to be laid in Santa Cruz, Teneriffe. In Orotava there is a particularly good spring known as the Fuente de Martianez.

DRAINAGE.—The drainage of the towns themselves is in every way deficient, but it must not be forgotten that the porous nature of the soil, which readily absorbs all moisture, and the constant movement of air consequent upon the proximity of mountains and open sea, greatly tend to prevent any epidemic diseases, from which indeed all the islands are singularly free, and, although there are bad smells to be found, nearly all Continental towns are decidedly worse off in this respect. The large hotels have naturally availed themselves of every opportunity to ensure safety in this particular, many having spent very large sums of money upon their sanitary arrangements. The first-class hotels leave nothing to be desired and compare favourably with those of London.

However energetic the hotels may be the municipalities themselves require to be reminded that they are far behind the times and that they show no disposition to make the advances which in this, the nineteenth century, may legitimately be expected.

It is to be hoped that the inevitable competition between Madeira and the Canaries will eventually force the authorities in both to recognise the fact that it is their duty to provide proper promenades and amusements for their guests, as well as a more modern system of water supply and drainage, and that such expenditure could scarcely fail to yield a handsome return by the increased popularity such measures would ensure.

WINDS.—Another important item to be considered is the prevalent wind. In all cases this blows from the N.E. In Madeira it is less felt than farther South, and Funchal, owing to its sheltered position, is relaxing to many people. In La Palma there is nearly always a soft healthy breeze; in Gomera and Hierro strong puffs and currents spring up rapidly and, after blowing with considerable force for a time, die away again. On the N.W. side of Teneriffe there is a certain amount of breeze consequent upon the varying temperature of the mountain sides, but the trade wind is only noticeable in exposed positions. Except in unusual disturbances, the movement of air is less than in La Palma, though greater than in Madeira. In Grand Canary there is an almost constant dry wind from the N.E., which is a great advantage to certain classes of invalids. In Fuerteventura and Lanzarote there is the same or even a drier wind which does not blow quite so hard.

The S.E. side of Teneriffe has hitherto been purposely omitted, as, being divided from the Orotava side by a high ridge of mountains, the climate differs very distinctly. The breezes of Grand Canary are here much modified and the aspect of the hills, facing the sun, causes a high temperature during the daytime. The climate is dry and this district has many advocates, particularly for those suffering from asthma.

The writer has no wish to make invidious comparisons between the various islands. It is difficult to find any place where the climate generally is more equable or affords a more agreeable change.

HEAT IN SUMMER.—One question all who think of visiting them will ask, is whether they form a summer as well as a winter resort. This has already been touched upon in the appendix to the meteorological tables and can most certainly be answered in the affirmative as regards one or even two summers, after which a visit to Europe would probably be desirable. Summer is the time for camping out; the season when weeks can be passed in the mountains without fear of rain, and when even an invalid, wrapped in a blanket, can sleep in the open air. As regards amusements quail shooting begins in August though partridge shooting, of which the seasons are legally the same, goes on, unfortunately, practically all the year round. The difference between the hot and cold months is less than in almost any part of the world, and can be still further reduced by a judicious change of residence from the sea level to the mountains or from a southerly to a northerly aspect. Another important factor is

that the N.E. trade wind blows with much greater force in the summer than it does in the winter.

The even temperature which can be maintained all the year round by moving such short distances brings another subject under consideration to which the attention of medical authorities should be especially directed—namely, the extremely favourable conditions under which a variety of maladies can be treated which are not lung diseases at all, although to carry them all out properly, the islands must be much more thoroughly opened up than is the case at present. Sufferers, for instance, who would have to wait until the summer months in other latitudes, may be taken in hand at once in a climate where the warmth and total absence of miasma guarantee, if a little foresight is used, a practical immunity from chills and damp. Where a doctor would hesitate to put a patient on “Banting” diet farther north, he need have no fear so far south. Gout, rheumatism, diseases of the kidneys, etc., are more easily attacked and a great advantage is gained by the constant supply of green vegetables, tomatoes, fresh fruit, &c. The Trauben Kur (grape cure) so much practised in Germany, can be commenced earlier and spread over a longer period. Sea bathing, when proper arrangements have been made, can be indulged in all the year round. Mineral springs are many and undoubtedly powerful, and demand an exhaustive investigation. All that is known of these as yet is most incomplete or even fragmentary, but they have long been in use among the islanders, and mention may be made of a few—namely, at Vilaflor and Agua García in Teneriffe, at Agaete and Firgas in Grand Canary, at S. Antonio in Madeira, at Charco Verde in La Palma, and last, but not least, at Sabinosa in Hierro.

As the recovery of an invalid depends fully as much on the accommodation obtainable as on the conditions of the climate, a few words on this subject are necessary.

ACCOMMODATION ETC.—Funchal has been so long a health resort that the requirements of visitors have become one of the staple productions of the country and hotels are consequently able to provide themselves with luxuries more easily than in the Canaries. In the latter the immediate effect of the concourse of visitors and of the increase in the number of ships calling has been to overtax the existing resources, which have not yet had time to accustom themselves to circumstances.

Fowls for instance a few years ago were much cheaper in the Canaries than in Madeira; now they cost considerably more.

This difference in price will disappear when the Canary

peasant at last realizes that a constant market has been provided which will not vanish as quickly as it grew. Then again there is more water and consequently more verdure in Madeira, which means better cream, cheaper butter and should mean cheaper vegetables, though, curiously enough, this is not the case.

As regards luxury of surroundings, furniture etc., there is nothing to choose between the best hotels in Madeira, Teneriffe or Grand Canary. All strive to do their best, and, though Madeira certainly has a great advantage in possessing a number of trained servants accustomed to the work for years, it is an advantage which every season tends to make less apparent.

To a certain extent the officials in Madeira recognise the fact that it is to their advantage to make the town attractive. It is quite true that they ought to do much more and that there ought at least to be a level walk from the jetty to the Pontinha. Still the town is clean, the gardens are well kept and out-door life generally is fairly well organised.

There is only one carriage road, but those too weak to walk can get about easily in the town, or even penetrate a short distance into the country by means of the local sleigh drawn by oxen, whilst the hammocks afford a luxurious means of visiting districts along paths where even mules cannot pass. Horses are fairly good and usually carefully shod, and there are a multitude of pretty industries to be bought as mementoes, from basket-chairs to jewellery, many of which are highly attractive. The custom duties are vexatious and cause everything to be dearer. The peasant classes here, as well as in the Canaries, are obliging and honest.

Passing on from Madeira to Teneriffe the attention is first directed to the Valley of Orotava where there are a number of hotels at different levels, capable of accommodating some five hundred people, a most remarkable advance since 1885, when they could barely find room for a dozen guests. At Santa Cruz, La Laguna, Güimar and Icod there are more hotels, many of which are very comfortable.

Communication by carriage is easy, and agreeable drives can be taken, but the bridle paths are indifferent. There are no custom duties on travellers' luggage, a great advantage common to all the Canaries. The lower classes are uninventive and the only trivialities worth purchasing are embroidery and some curious flowers made from fishes' scales.

The largest hotels in Grand Canary are in or near Las Palmas, but one English hotel has been opened in the hills and it is probable that more will follow. The country fondas are fair in one or two instances.

Carriage roads lead to several parts of the island and bridle paths to the rest. The customs are the same in all the islands, but the Canarians show little taste in adorning the outside of their houses, which are sadly tame as compared to those in Teneriffe and Palma. Embroidery and knives are worth buying, the handles of the latter being particularly handsome.

In La Palma a comfortable hotel, conducted on English principles, is to be found in Santa Cruz (the capital): the same establishment having a branch at El Paso. There is also a *fonda* at Los Llanos.

A good road is being constructed, and this is an immense improvement, as those in need of fresh air are able to drive in an open carriage by an easy gradient at a height of 1,000 feet above the sea. A fair bridle path crosses the island. The customs of the country have altered less by contact with the outside world than is the case in the other larger islands and cock-fighting is indulged in more than in any part of the Canaries, a large permanent building being erected on purpose. Many knick-knacks may be bought, as well as strongly-made silks of various colours.

There is practically no accommodation for invalids in the remaining four islands, and these will be found to be sufficiently described in their proper places.

The people in all the islands are friendly and courteous, with somewhat stately and old-fashioned manners, which seem natural to the race. Education is much neglected and but little knowledge is possessed of matters other than local, or which take place outside the Spanish peninsula. This is greatly owing to the domestic habits of the gentlemen, few of whom care to go far out of sight of home. The duenna still reigns supreme, but the young ladies are sighing for the liberty which they see enjoyed by their English sisters and, though the lover still stands and gazes from the street at his fair one in the balcony, or at most converses with her occasionally through the "postigo," there are signs of a desire for proceedings a little more Britannic. The "postigo" is a small wooden shutter, hanging on hinges, which is slightly pushed open from inside when the occupant of the window seat wishes to look out at a passer by. It was once common in Andalusia, but is now seldom met with.

Passports are not required in the Canaries and all ports are free, luggage not being examined. In Madeira however passports are wanted and extracts from the customs affecting visitors will be found elsewhere.

VILLA ACCOMMODATION.—Those who wish to spend a whole



winter away will often find it more economical to take a house. A good deal of information is given on this subject in the appendix where the cost of food, servants, rent etc., can easily be found by means of the index.

The vital question to many, however, of how much per annum it is necessary to spend is a little more difficult to answer. Those who care to do so can be extravagant here as they can elsewhere, but, as every extra luxury means extra labour and worry to the master or mistress, it is better for them to indulge themselves somewhere else, unless they bring an entire staff of servants with them.

Generally speaking there is but little entertaining amongst the English and none amongst the Spaniards. The greatest dissipation is to go to a dance, or to be five deep for afternoon tea. As those who go out for their health should avoid so much excitement, it may be roughly calculated that a husband and wife and one or two young children can live very nicely, have friends to lunch twice a week, keep a pony and trap (about £15 a year), two maid servants and a man, doing the whole very nicely, barring rent and education of the children for about £300 to £400 a year. That is to say while it is possible to live on less than half these sums, one can spend as much as £500, but above this all is vanity and vexation of spirit. The chief economy of the place lies in the fact that drink, tobacco and such amusements as can be found are cheap. Added to this it is not easy to throw away an occasional fiver.

Those thinking of taking up their residence in the islands and who are afraid of eruptions or earthquakes, may possibly like to know what chances they have of being buried alive. During modern times the following outbreaks have been recorded:—1585, La Palma (moderate); 1646, La Palma (violent); 1677, La Palma (extremely violent, accompanied by terrific noise and an enormous flow of lava); 1705, Teneriffe (moderate, preceded by earthquake); 1706, Teneriffe (locally violent); 1733, Lanzarote (violent); 1796 and 1798, Teneriffe (moderate); 1824, Lanzarote (insignificant). Madeira and the other islands have been undisturbed. In no case do there appear to have been any dangerous showers of ashes during recent geological epochs and, from the position and apparent age of isolated pinnacles of rocks, earthquakes must have been merely local.

HISTORY OF MADEIRA.

THERE is no proof whatever that the Madeiras were visited by any of the early navigators. It has been suggested that they were the Carthaginian colony, known as the Cassarides, described about 250 B.C. as situated on an uninhabited island; but the description might apply to several places, and, as the Portuguese on arrival found no traces of the former presence of man, it is probable that the group was quite unknown until its discovery in A.D. 1418.

As will be seen later on Pliny's "*Purpuriae*" are much more likely to have been the eastern Canaries, and it is difficult to believe that the connection of this name with the Madeiras could have been long maintained, were it not that so great an authority as Humboldt, full of admiration of the violet and purple clouds and hazy mountains which he saw, lent new life to the theory by subscribing to it personally.

The Arab, Spanish, Genoese and French claims are too vague to be worth examination; but it is not improbable that the island was visited by the Almagrurin adventurers, who are said to have sailed from Lisbon about the year 1100 A.D. These adventurers, whose name in Moorish meant the "finders of mares' nests," departed with the expressed intention of discovering something; and certainly the tale of their voyage, semi-fabulous as it no doubt was, yet agrees in time and distance very well with what might be expected from a badly built ship, driven across unknown seas, now in one direction and now in another. The district of the stinking and turbid waters which first frightened them back might well be the neighbourhood of the Azores, then probably in eruption; the island of the bitter sheep, where they went on shore, corresponds fairly well with Madeira, if allowance be made for travellers' tales and for the vivid imaginations of a party of navigators who half expected to meet dragons or monsters round every corner; whilst the islands some few days farther south, where they were taken prisoners and from which they were eventually conveyed blindfold to the African coast, might, with the same allowances, be an account of one of the Canaries. According to their own tale they were landed some six weeks distant from the Straits of Gibraltar, which they eventually reached on foot; but whatever deductions we may draw to-day, it is evident from the name given to them, and from the ridicule to which they were subjected, that neither they nor their story were very well received by their contemporaries.

There is another legend which may have some connection with Madeira, namely that of the seven years' voyage of St. Brendan the Elder, Abbot of Clonfert on the river Shannon, and hero of the most popular romance of the middle ages. Kingsley calls it a "Monkish Odyssey," and says that it is manufactured out of dim reports of fairy islands to the west of the Canaries and of the Azores; out of tales of arctic winters, of icebergs and of frozen seas; out of Edda stories of the Midgard snake which lies coiled round the world; out of scraps of Greek and Arab fables and from myths of all sorts and of all ages, gathered by degrees and slowly woven together. As St. Brendan died in A.D. 578, aged 94, and the books which have to be consulted about him were written or printed as late as from the eleventh to the sixteenth centuries, complete accuracy of detail is not to be expected.

After his return from Brittany St. Brendan received a visit from a hermit named Barintus of the royal house of Neill, who persuaded him to come away to an island in which he had lately been staying and in which he had founded a monastery. This island was described as a most delicious resort in which the sun always shone, the fruit was always ripe and the birds, which wore golden crowns, sat on the trees and sang in harmonious concord, unless they were asked questions, when they left off at once and answered both civilly and to the point. There were no harmful animals nor noxious insects in this earthly paradise, which did indeed so nearly resemble the heavenly one, that on his, Barintus' return to Ireland, every one believed him to have come from heaven because of the delightful fragrance which, for the space of forty days, clung to the garments he was wearing.

St. Brendan made up his mind to go; built a coracle of wattle covered with hides, tanned in oak bark and softened with butter; loaded it with forty days' provisions and ordered his somewhat unwilling disciples to embark in the name of the Holy Trinity. Life in the beautiful island which was eventually reached passed away like a dream, so that though the absence from Ireland lasted seven years, the time seemed to be no more than a few months.

On his return St. Brendan built the monastery of Clonfert in which there were at one time three thousand monks, all supporting themselves by the labour of their own hands. He then became a dispenser of miracles and, having visited Iona, the monastic metropolis of Western Scotland and a little later on the head quarters of Christianity, died and was buried at Clonfert.

Another legend states that he did not die but made his appearance much later on off the coast of Portugal, whither

he had come on the famous floating island of Antilla or Cipango, or, as the Spaniards call it, St. Borondon. At the moment of his arrival the Christians were on the point of being driven into the sea by the conquering Moors, so that they were glad to avail themselves of a means of escape offered by S. Brandão, or Borondon, or Brandaines as the French have it. They are still sailing about until the advent of the millenium, when they will reappear in perfect health and will help to bring peace back to an afflicted world.

This is the island which is supposed to reappear from time to time (see elsewhere), and whose mirage, fragile as all mirages are, has yet acquired the same circumstantiality that time and credulity have given to that of the "Flying Dutchman" or the "Elysian Fields," of which latter the Island of Cipango is probably a better representative than any portion of *terra firma* yet discovered.

Whether St. Brendan visited Madeira or the Canaries or not independent testimony shows that the Irish monks were very great explorers. It is said that on the colonization of Iceland by the Norse, in A.D. 870, Irish hermits were found there. The Icelanders first heard of the existence of America from the Irish, who stated that they knew of a land far away to the West over the ocean (possibly Greenland), where Christianity had been introduced and where a small colony of Irish were established, who had taught some of the natives to speak their own language.

The maritime history of the Moors must have commenced much later on, so that the Irish were able to explore any part of the Atlantic at this time without fear of interruption and may well be credited as being the first to discover America and as the most likely visitors to Madeira and the Canaries. It is even possible that the Moorish tradition that there was a land seven hundred leagues to the west, where the men and the women could not be distinguished apart because both of them had smooth faces; a tradition which is said to have become known to Columbus and by which he is said to have regulated his sailing orders, may have had an Irish origin.

Although legends which cannot be proved may be of little value, there remains one which can scarcely be left out. Portuguese historians state that in 1344 an Englishman named Robert Machin, eloping with a certain Anna Arfet from Bristol, was driven in this direction by a tempest and found the island of surpassing beauty and without inhabitants, the latter fact proving that at least he could not have visited any of the Canary Islands. The tale goes on to say that he and his bride subsequently died there and were both buried in the same grave near the little town of Machico, which is named

after him, an altar and a cross being placed over them to perpetuate their memory. Another version, which seems more probable, taking into consideration the future importance of the island as a health resort, says that, a second storm arising, the ship, with all souls, was forced to put to sea and was eventually wrecked on the coast of Morocco. Whether Machin or Anna Arfet died, or, landing with the rest, were sold with them into slavery, does not affect subsequent events, as none of the actors reappear, but many years afterwards a Spaniard named Juan Morales, being ransomed from the Moors, set sail for his native country, was taken prisoner by the Portuguese and carried to Lisbon, relating there, to the great admiration of the King, Dom John I, and his energetic son Prince Henry the Navigator, the tale of the wonderful island which had been told him by his fellow-slaves.

Even then there was some delay, but at last a ship, commanded by one Zargo, left Lisbon on the 1st of June, 1419, and landed at Porto Santo, which had been discovered and colonised by the Portuguese two years before. It speaks little for the enterprise of the time that Madeira should not have been discovered simultaneously, but Zargo found the people, who had come so far, terrified by strange noises which were occasionally heard to issue from the great cloud looming in the horizon only twenty-three miles away. Although dissuaded from doing so, he resolved to investigate the cause and presently landed, accompanied by the Spaniard Juan Morales, afterwards visiting several parts of the coast by boat. On July 2nd, another landing was made and a solemn service held, the island being formally taken possession of in the name of the King of Portugal.

Returning home Zargo was made governor of the part to the east of the Punta de Oliveira and obtained permission to fire the forest in order to render the ground more suitable for cultivation, the result being a conflagration which is said to have lasted for seven years and to have done irreparable damage to the neighbourhood of Funchal.

Shortly afterwards the sugar-cane was introduced, in 1432 the first sugar-mill was erected and about 1460 the vine was brought to the island from Crete, by order of the indefatigable Prince Henry. In 1508 Funchal was created a city, the cathedral was built and in 1514 the first bishop was appointed.

In 1566 three French vessels, under De Montluc, ravaged and nearly destroyed Funchal. In 1582 Portugal, and with it Madeira, passed into the hands of Spain, their independence being once more recognised at the end of the protracted war in 1668. Madeira was, however, evacuated by the Spaniards

in 1640. From 1801 till 1802, and from 1807 till 1814, the island was garrisoned by British troops, under the treaty of alliance.

Large exports of sugar and wine commenced early in the history of the island, the wine being in such request at the beginning of the present century, that in the year 1800 as much as 16,981 pipes were shipped. England took a large part of this, the taste having been implanted in the country by the officers returning from the American war of secession. This consumption, however, fell off greatly as people began to acquire a liking for French clarets and, though other markets were opened, the trade suffered considerably long before the oïdium in 1852 and the phylloxera in 1873 came to destroy the vineyards and strike at the source of supply itself.

The commercial history of the vine will be found in greater detail elsewhere.

In 1834 monasteries and nunneries were placed under the control of the Government. Monks were ejected but nuns were allowed to die out, though some of the nunneries are still occupied by novices. At the time of the suppression there were four monasteries and three nunneries.

HISTORY OF THE CANARY ISLANDS.

THEIR position between $27^{\circ} 4'$ and $29^{\circ} 3'$ N. and $13^{\circ} 3'$ and $18^{\circ} 2'$ W. (med. Greenwich), a few score miles from the African coast and on the extreme limit of the ancient world, is sufficient reason why so few records of their state in former times have descended to us. Whether they were really the abodes of the Hesperides, the scene of one of the exploits of Hercules, the garden of Atlas, King of Mauritania, in which grew the golden apple which was guarded by the dragon; whether the summits of a mountain chain now slowly rising, or the remains of a vast sunken continent extending from Gibraltar beyond St. Helena and the Azores, to which supposition legend lends some colour (*see* Plato in *Timæus*, about 380 B.C.), whilst scientific research has convinced many of its truth, or whether the Peak is the Mount Atlas of mythology, which is more than probable, it is impossible that they should have been quite unknown to the Ancients, as they are almost visible from Cape Juby in Morocco, and ships could scarcely pass along the coast of Africa without encountering them sooner or later.

Homer (B.C. 9th century) speaks of their discovery and colonisation by Sesostris, King of Egypt (about B.C. 1400), and alludes to them as an island beyond the pillars of Hercules to which the souls of departed heroes were translated, calling them Elysium, whence Elysian (probably derived through the Phœnicians from the Hebrew). Ezekiel says in chap. xxvii, v. 7 that the Tyrians were clothed in "blue and purple from the Isles of Elishah" (mar. ref: "purple and scarlet.")

Hannon the Carthaginian, who is said to have circumnavigated a great part of Africa about 600-500 B.C. may have visited them, as may the Phœnician expedition which left the Red Sea by order of Necho, King of Egypt, about B.C. 680, and which did undoubtedly sail round the Cape of Good Hope, returning by the Pillars of Hercules or Straits of Gibraltar (*see* Herodotus).

Herodotus in his description of the lands beyond Libya says that "the world ends where the sea is no longer navigable, in that place where are the gardens of the Hesperides, where Atlas supports the sky on a mountain as conical as a cylinder," and Hesiod states that "Jupiter sent dead heroes to the end of the world, to the Fortunate Islands, which are in the middle of the ocean."

Being rediscovered by the Romans shortly before Christ, they were without much question dubbed "*Insulæ Fortunatæ*," a name which has clung to them ever since. Juba II, King of Mauritania (about 50 B.C.) sent ships to inspect them, and received, among other presents, two large dogs from Canaria. In a book dedicated to Augustus, he must have described them as islands clothed in fire, placed at the extreme limit of the world, as, though his writings are lost, he is freely quoted to that effect by Pliny, Plutarch and others.

King Juba appears to have founded factories for the making of purple dye from the orchilla weed in both Fuerteventura and Lanzarote, and, for this reason, it is much more probable that Pliny applied the name "*Purpuræ*" to these islands than to the Madeira group. It is true that Pliny speaks of the islands as uninhabited, which the Canaries certainly could not have been, but afterwards he goes on to say that the date palm grows with extraordinary fecundity, a description certainly more applicable to the Eastern Canary Islands than to Madeira. The most accurate record of the geographical position of the Fortunate Islands is left us by Ptolemy, A.D. 150, who drew his imaginary meridian line on the extremest west and through the island of Hierro.

It can scarcely be doubted that the islands were well known to the Phoenicians and probably to the Carthaginians long before Juba's time. Both these peoples, more especially the former, pushed their researches to far greater distances than is generally believed, and endeavoured to hinder others from following them by inventing all sorts of hideous travellers' tales about what took place in far off countries; tales which were generally based on much the same description of circumstantial evidence as that of the gold seeking ants in Herodotus.

It is therefore strange that no authenticated Phoenician inscriptions have been found, and that all the writings or scratchings discovered as yet have been declared to be disconnected and frivolous marks, especially as these marks do not seem in any instance to resemble the style of decoration fashionable among the aborigines, as shown by their earthenware stamps (*Pintaderas*), their leather, their pottery or their painted walls.

The aborigines therefore who were dispossessed by the Spaniards must be assumed to have been unable to write, and as their conquerors, in the intolerant spirit of the Middle Ages, spared but few to tell the former state of the country, failing to preserve properly any information they did derive, we have but little knowledge of what passed prior to the early part of the fourteenth century, although it is supposed that a Scotch

mission under St. Brendan (generally spelt by the Spaniards Borondon) remained in the islands from A.D. 553-560. For further particulars of this legend and that of the Almagrurin adventures, the reader is referred to the History of Madeira.

The ancient names of the islands which are given in this work have been taken from a small local geography. There is some doubt as to their correctness, but the author does not care to enter into a discussion on a subject about which no two writers have as yet managed to agree.

For the next mention of the Canaries we must turn to the Moors and we find an unauthenticated reference (*see* Chil, p. 238) that Ben Farroukh landed at Gando Bay in Canary, A.D. 999, and found a people willing to trade and not unaccustomed to visitors. This opportunity is taken of calling the reader's attention to Gando Bay, which was certainly the principal port of Grand Canary in historic as it probably was in pre-historic times. (*Refer to* Los Letreros near Agüimes and to the *M^ñ* de las Cuatro Puertas.)

Edrisi, the Arabian geographer, A.D. 1099-1164, quotes Raccam-el-Avez as authority that in clear weather the smoke issuing from the island of the two magician brothers, Cheram and Cherham (note resemblance to Cheyde or E'Cheyde the Guanche name for the Peak) was visible from the African coast, a truth which Humboldt (Cosmos) proves to be mathematically correct. The islands are elsewhere described as "Gezagrel Khalidal" and "Al-jazir-al-Khaledat," translated as the Happy or Fortunate Islands.

It has been argued that the Canaries were visited by a Genoese expedition about A.D. 1291, but as this fleet never returned the matter is difficult to prove. They are again reported to have been discovered by a French ship in A.D. 1330, and it is said that, on hearing of this, King Alphonso IV of Portugal sent a party to take possession of them in 1334, which was repulsed at Gomera. This was followed up by another expedition from the same quarter in 1341, which seems to have been again without result, although the islands were visited and a considerable amount of information was gathered.

The little knowledge we possess about the Canaries during the early middle ages is accounted for by the turmoil and confusion into which the world was thrown by the fall of the Roman Empire and by the protracted struggles of Christianity against Mahomedanism. If one may judge from the traditions handed down they must have been a sort of pastoral Arcadia, with the exception, perhaps, of Lanzarote and Fuerteventura, which were more exposed to attack from Africa and which seem to have had frequent civil wars.

In an evil hour for them Europe, recovering from the strain of the Crusades and filled with unemployed soldiers, turned its attention their way. In 1344 we find a certain Louis de la Cerda, a French nobleman of royal Spanish extraction, created "King of the Fortunate Islands" by Pope Clement VI, then resident at Avignon, with full power to Christianise them in the best way he could, a decree much resented by the English Ambassador, who evidently considered that the term "*Insulae Fortunatae*" applied exclusively to Great Britain, which, under Edward III, was then at war with France. Nothing came of this flourish of trumpets, but in 1360 missionaries were sent to Grand Canary who converted some of the natives, and taught them many useful arts, but of whom the majority subsequently suffered martyrdom. In 1393 an expedition from Spain was repulsed off the same island, but met with greater success farther west, and Lanzarote was sacked on the way home.

There is no doubt that the islands must frequently have been visited during the fourteenth century for the purposes of pillage or of trade, but the modern history of the Canaries practically commences in 1402 when Jean de Bethencourt, a Norman gentleman, fitted out a ship with the express purpose of conquering them and settling there.

Lanzarote, in which, according to his own statements, he found the fighting population reduced by constant raids from abroad to some three hundred men, was peaceably occupied and a small fort was built in Fuerteventura, which proved however too strong for conquest. Bethencourt was then obliged to return home in order to procure more means, a garrison being left behind. Men and money were given by Henry III of Castille, who, in return for the promise that the islands should be conquered in his name, created Bethencourt lord of four of the group.

The following years are a history of trust on the one side, and treachery and cruelty on the other. Bethencourt, who had many redeeming points, left in 1406, and died in France in 1425. His nephew took command at a time when a good ruler could have done much to conciliate and win over the natives, but, behaving tyrannically, matters gradually became involved and one general after another had to be sent. In 1464 Teneriffe agreed to pay homage to Spain, but, owing to treachery by the Spaniards, we find the island later on again in arms. Ferdinand V of Castille at last sent Juan Rejon, with six hundred men, in 1478, to formally complete the conquest. First Canary fell after a stubborn resistance, then La Palma, and Teneriffe, the last, was finally subdued, under Don Alonso Fernandez de Lugo, in 1496. Although the

sovereignty of Spain has never been seriously disputed, both Portugal and Morocco have laid claims to the islands and Jarife, King of Fez, invaded Lanzarote in 1569, in virtue of his descent from Atlas of Mauritania, but was forced to retire. In 1595 a large English fleet, under Sir Francis Drake and Sir John Hawkins, was repulsed off Las Palmas and met with little success at Gomera. A Dutch fleet, which followed in 1599, did considerable damage to the first place, but was eventually driven away and was unable to land in the latter.

In 1657 Admiral Sir Robert Blake attacked Santa Cruz, Teneriffe, and worked great havoc amongst the forts and shipping. In 1706 Admiral Jennings paid a visit without, however, opening fire. In 1743 Admiral Charles Winton made some unsuccessful attempts on Palma, Gomera and Grand Canary. Privateers seem, however, to have done a good deal of damage at this time. In 1797 Nelson attacked Santa Cruz in form but, after four days' fighting, was forced to withdraw, losing his arm, whilst standing on the mole, and two of his flags. The latter are now to be seen in one of the churches.

In 1839 monasteries were declared illegal, but nuns are still allowed to take the veil on condition of depositing with the Government a small sum, about £150, to guarantee the possession of means of livelihood. The ecclesiastical properties, which were numerous, were at the same time taken possession of by the Government, in return for salaries to be paid to the bishops and priests, as agreed upon with the Pope.

However interesting the later history of the Canaries may be as a harbour for Spanish galleons; as a point of departure for Columbus on his way to the discovery of a new world; as the site of the only direct repulse which our greatest of admirals ever suffered, or as a group of islands which, under the somewhat lax rule of Spain, has yet developed into one of the most important coaling stations of to-day; such records, although far the most complete, precise and trustworthy, can scarcely arrest the attention of the most prosaic mind so completely as must the many social and ethnographical problems presented by the earlier traditions, so rudely handed down by mediæval visitors or conquerors, and enshrined in a halo of romance by the fanaticism or vivid imagination of the monkish writers by whom they were preserved.

It is a vexed question from whom the inhabitants were descended. The measurements of a number of skulls, and the most elaborate researches into the construction of the languages used, have only resulted in causing a few very positive men to agree to differ. Without entering into the

question of where they came from there is no doubt that they were found *in situ*; that they had lived for ages without communicating with the outside world and had worked out their own problems in their own way, both when discovered by the Phœnicians and when rediscovered by the Moors, Genoese or Spaniards.

The populations as estimated by Bethencourt and other visitors of the 15th century were as follow :—Lanzarote, 300 fighting men; Fuerteventura, 4,000; Canary, which obtained its name of Grand Canary from the stubborn defence it made, from 9,000 to 14,000 warriors and a population of 90,000, or much the same as to-day; Teneriffe, about 15,000 warriors, and La Palma, 1,200 inhabitants with some 20,000 animals, both probably greatly underestimated. These are the only records the writer has met with. In Hierro where war was unknown there were no fighting men.

The conquest of the other islands and especially of Grand Canary and Teneriffe, was only accomplished by a great deal of local intrigue. By nature the people were truthful and generous and their conduct towards the Spaniards showed an abhorrence of treachery among themselves, which, if thrown away upon the greedy generals of the time, is as much admired by the Canary Islanders of to-day as the want of it is reprobated in their own forefathers.

Naturally a people without literature or ships, divided from one another by wide channels of water and, in the case of the Guanches of Teneriffe, unable to swim, would, even if starting from the same point, soon differ greatly in their language and customs. Thus we find that though the laws in all were strict, there was a great dislike to sacrifice life in Teneriffe and little hesitation in taking it in some of the other islands, not only for murder, robbery, adultery and breach of contract, but even for speaking to or joining a strange woman in the public road.

Separate paths were often made for the use of the different sexes both in Teneriffe and Grand Canary. This law was probably necessary in order to prevent too rapid an increase in the population and to avoid the necessity of child murder, which was enforced at different times in most of the islands, the first-born being however always spared.

Some connection between the islands and Egypt might be argued from the fact that the bodies of the upper classes were preserved as mummies, butchers and the cleansers of dead bodies being regarded with the same disgust as in the Valley of the Nile; but this is again contradicted by the absence of any knowledge of writing and by the religion, which, though in some instances prayers seem to have been made to images

and to the heavenly bodies, was mainly a pure deism with an invisible god, to whom certain of the inhabitants devoted their lives in much the same way as our own monks and nuns.

Abandoning speculation it seems advisable rather to give a condensed record of facts which the writer has gathered from a number of historians and which form at least a stepping stone to those who wish to study the subject more completely. These notes will be found *in extenso* in the various books of which a list is given.

ORIGIN, LANGUAGE, INSCRIPTIONS, ETC.—Some historians declare that the natives were derived from two separate and permanently hostile peoples. The roots of the various dialects had however a common origin and the earliest visitors were able to make themselves partially understood in one island by means of interpreters from the other. This more especially applied to the islands of Lanzarote, Fuerteventura, Gomera and Hierro, whilst a number of words and names of places in all the islands were almost identical with Berber words and names, as were also the names of the tribes inhabiting Hierro, Gomera and Palma, viz. Ben-Bachir, Ghomerythes and Haouarythes. Certain words changed but little, for instance *Aemon* meant water in Lanzarote and Hierro and probably elsewhere; *Aho*, was milk in Lanzarote, Canary and Teneriffe; *Chivato*, meant kid in all the islands and *Cigueno*, was the name for a goat in Lanzarote and Palma. Their connection with the Arabs may be deduced from the fact that they used the decimal system and that in Teneriffe sandals were used similar to those of Valencia, which were copied from those of the Moors. The inscriptions found on rocks in Palma, Hierro, Canary and Fuerteventura have been submitted to experts in Paris and have been declared to be mere arbitrary scratches, without connection, of different epochs and as having apparently nothing to do with the inhabitants found at the time of the conquest. It is very improbable that there was any connection with the inhabitants of America, as in all the islands a definite article was used, a thing unknown amongst the Caribs or Red Indians.

FORM OF GOVERNMENT, LAWS, MARRIAGE LAWS, &c.—In Teneriffe the King or *Mencey* was supreme and appears to have resided at Adeje until shortly before the conquest, which took place towards the close of the fifteenth century. On the death of Tinerfe the Great the island was divided amongst his nine sons of whom Bencomo the Good, King or rather Chieftain of Taoro, was nominally the head.

The Mencey possessed rights of seigneurie over all his

subjects; the nobles were subservient to him, but enjoyed similar privileges over the serfs. There was great distinction between the classes, which dressed differently, were forbidden to intermarry and were buried separately, a convenient belief being maintained that the Creator first made the nobles and, finding the world would hold more, then peopled it with the common herd to wait upon them. A man of noble descent who sullied his hands by menial work or was discourteous to his inferiors, was not received on coming of age as a member of the upper classes. All, however, worked in the fields or rallied during war at the points previously fixed, such as the great palm in Villa Orotava. A child born of a noble father by a peasant mother was *ipse facto* noble, but a woman lost caste by marrying beneath her. The daughters of the nobles were sometimes brought up apart (*see* Religious Customs) and their marriage required the sanction of the King. Only one wife seems to have been allowed, but she might be repudiated if barren. One writer however states that a man might have as many as he pleased and that consent alone was sufficient to constitute marriage. He was probably misinformed.

The sign of authority was the *humerus* or bone of the arm of one of the deceased kings or, according to Viana the poet, a skull. This was sworn upon at the coronation by both King and nobles and was used as a sceptre at the council. Justice was administered and laws made in councils, called together at some well-known point, such a council being known as a *taoro* or *tagoror*.

Núñez de la Peña says that there was no capital punishment in Teneriffe but in this he is probably wrong, though the records made by the early writers are all confused and never quite trustworthy. According to other writers a child was put to death for insulting its parents, adulterers were buried alive, and robbery, where the door was closed, if only by a wooden latch, was nearly always a capital offence. Homicide was revenged by the relatives, but there were a few places of refuge similar to those recorded in the Semitic writings. The culprit, if brought to justice, seems to have forfeited his property and been banished from his own district for life, but it is probable that a distinction was made between homicide and murder. Death was also inflicted on those who approached too near to the spot used as a bathing place by the Consecrated Virgins or *Harimaguadas* as they were called in Canary.

Execution was inflicted by means of crushing the breast with a heavy stone, beating with sticks, throwing from a rock or into the sea or, in cases of treason, by burning, stoning or burying alive. In Lanzarote there was a pit into which the

condemned was lowered, the choice being offered to him of either food or water. This pit was done away with because someone, more artful than his predecessors, chose milk, and remained alive so long that this form of punishment had to be abolished.

A most admirable form of nationalization of the land, and one most suitable to a small and isolated country, was that all the property belonged to the crown, to which it returned on the death of the head of the house and by which it was at once redistributed. This prevented any of the nobles from growing too powerful.

It is rather difficult to locate all the above laws as belonging actually or entirely to Teneriffe, and the conclusion the writer has drawn from what he has read is that similar necessities in all the islands had caused the fundamental laws of each to bear a great resemblance. Besides this the inhabitants must have started on a more or less common basis, or at least with ideas which were bequeathed to them by a common race of predecessors, however remote, and, as they could only pass the laws on from one generation to another by word of mouth, it is reasonable to conclude that this was done by means of the priests, as was again the case with the early Jews, and that these were forced to learn them by heart, possibly in a sort of rhythmic chant. This chant would be difficult to alter suddenly, but it might gradually change by the addition of new matter and by the deletion of old. As the priests were entirely chosen from amongst the nobles, any change of this description would not be likely to be in favour of the peasant.

The government in Grand Canary seems to have passed through the stage to which Teneriffe had recently arrived. The island had been divided amongst fourteen chieftains who endeavoured to take away the territory of the Princess of Galdar, Andamana, a woman who, from all accounts, must have been as remarkable for her courage and beauty as for her intellectual gifts and her power of intrigue. Coquetting first with one chieftain and then with another, she gradually organised her forces, then, choosing the bravest of her warriors as her husband, eventually subdued the whole island. It was owing to this fact that the Spaniards found Canary so hard to conquer, and had Teneriffe been equally united, it is difficult to imagine how they could have taken possession of it at all.

Some writers state that both in Canary and Gomera it was customary for a host to present his wife to a guest or to change wives during the stay of the latter, a refusal being regarded as a deadly insult. For this reason property descended to the brothers or, failing them, to the sisters or to

their descendants. It is not unlikely that this was a custom in several of the islands, as the people seem to have regarded hospitality as one of the chief virtues. In Lanzarote and Fuerteventura, however, it was most certainly not the case, and in both islands the royal descent was from male to male. In Lanzarote one writer mentions a most curious custom, namely that a woman was allowed three husbands. The husband was free for one month, was obliged to work about the house or on the land for another month and was master of the house on the third. In Hierro it seems to have been a very usual thing for the brother and sister to intermarry. This was again the island in which the distinction of class, which elsewhere forbade intermarriage between the noble and the serf, seems to have been absent.

CHARACTER, SOCIAL CUSTOMS, HABITS, APPEARANCE. — Except in Hierro, where there was a small population under one king and where fighting was unknown, the clans were extremely warlike. This is proved not only by history but by the positions they chose for their habitations, of which the best examples are to be found in Grand Canary and La Palma. Although in the first-named island they knew how to build houses, of which indeed examples are to be found even now, and though they are said to have been in the habit of squaring and smoothing stones, the bulk of the population no doubt lived in caves. Many of these are in the most inaccessible positions and must have been difficult to enter, even before the narrow approaches leading to them were worn away by the weather. Their colonies were also frequently situated in the centre of a most sterile district, neither the best for cultivation nor for the feeding of stock ; in such places for instance as the Barrancos of Fatarga or of Tirajana in Grand Canary. One may incidentally remark that they must have been an extremely dirty people, as a good water supply seems to have been a matter quite outside of their consideration. In Lanzarote and Fuerteventura, where they generally lived in houses, the entrance was always small to ensure security against attack, and the building was surrounded by a wall into which the goats were driven at night. The owner was allowed to kill anyone found inside this wall after dark, as is the case to-day in a native kraal in Central South Africa.

These warlike habits made them of course more difficult to conquer. La Palma was only subdued by the help of the people of Gomera, both parties being, it is said, brave to rashness and indifferent to death or suffering. Children were trained as warriors by teaching them to throw mud and blunted javelins at one another, which they were taught to

catch and return if possible, and marvellous tales, not worth repeating, are told of their prowess when grown up.

Their agility in both throwing and avoiding stones was considered almost miraculous by the Spaniards, Admiral Sir John Hawkins himself being an astonished spectator of their skill, strength and intrepidity in jumping, lifting weights and climbing. Games of skill were indulged in at stated times, during which, if at war, a truce was held, and much emulation was exhibited, though probably most of the records are absurdly exaggerated.

They are said to have been incapable of treachery and to have maintained a high code of honour when their word was once given. A good tale is told of their capturing some Spaniards, who had broken their oath, and condemning them to brush away and kill the flies in their houses ; declaring them to be less than men and unworthy to be put to death.

These prisoners were afterwards released, this being only one amongst many instances in which the natives acted in a conciliatory manner, such as would probably have led to ordinary trade relations being established and to their being gradually won over to the civilised world, had the Church of the day not demanded that they must either be converted or exterminated. When properly treated they were most affectionate, as is shown by the people of Gomera, who swam for miles alongside Bethencourt's ships when he left the island, imploring him to stay, and who were afterwards, from sheer gratitude, mainly instrumental in the conquest of La Palma. Again in Hierro the newcomers were welcomed with outstretched arms, and even in Canary were allowed to build a fort for the purposes of trade, until they committed violence on the native women and otherwise misbehaved themselves.

Prisoners of war were generally condemned to menial work, *i.e.*, such work as butchery, the preparing or cooking of meals, the cleaning of cattle sheds, etc., and probably any work which was not actually the tilling of land, the care of cattle or the pursuit of war.

Their periodical contests of skill were sometimes carried to the bitter end, as was the case when two rivals committed suicide from the cliffs at La Paz, because neither would be outdone by the other. They also met for the purpose of dancing and the dance known as the "Canario," now a favourite in Cuba, is said to have been learnt from the Bimbachos (Hierro). They were fond of declaiming poetry, which was declared by Viana to have been very sweet. It described the achievements of the dead or of the living in a manner recalling alternately the Homeric periods and the Saga of the Scandinavians.

In appearance they were generally tall and extremely strong and, though in the Eastern Islands they were dark and thick-lipped, are said to have been fair elsewhere. The women are reported to have been beautiful, but it must be remembered that the sailors who described them had been on board ship for some time and that allowance must always be made for travellers' tales and for distance, which would lend enchantment to the recollection. The standard of beauty in many parts of the Canaries to-day has a great deal to do with the distance round the body or limbs. In Canary at that time it was customary to fatten a girl up for thirty days before marriage, as the Moors do at present. It is also recorded that the people were very sensible and only took as wives those women who, by their girth and their make about the hips, were most likely to have healthy children. One writer says that females were incapable of suckling from the breast but did so from the lower lip, which reminds one of the men whose heads did "grow beneath their shoulders." On the whole it is probable that they were much the same as other people and that very few of them could jump more than twenty feet off the ground, or throw a stone more than seven miles. Besides that they were not all killed but many became the wives, mistresses and possibly husbands of the Conquistadores, whose descendants do not exhibit any special form of muscular development, such as might be expected were all the tales told about their ancestors true.

RELIGION, PRIESTS, VESTAL VIRGINS, FORMS OF PRAYER, LEGENDS, ETC.

As previously stated the religion or religions were generally founded on the worship of an invisible god. In Teneriffe this must have been more particularly the case. The summits of mountains were, as is usual, held as fitting places for worship, and in Teneriffe the Peak, which was called *Teide* or *E'Cheyde*, probably meaning the seat of fire or hell, seems to have been regarded as the abode of the deity. The inhabitants called their island *Tehinerfe* (*Tehin*—white and *erfe*—mountain) and themselves Guanches (possibly Vanches) which is supposed to mean "the sons of *che*," short for *E'Cherde*. Other names were "Achmech" and "Chinechi," but whether these meant the whole or only a portion of the island is not clear. Their most solemn oath was by "E'Cheyde and Magec" or by "Hell and the Sun," a sufficiently expressive formula.

The names of the deities were—in Teneriffe, "Achaman" meaning God Almighty; Menceyato, corresponding to our own Lord; and several others which described him in his various

attributes. It is also said that Acoran and "Alcorac," names commonly used in Canary, were employed, but this is doubtful. The Supreme Being in Canary was known as "Atirtisma." In La Palma "Abora" was the "God of all things" and in Hierro "Eraoranhán" was the "God of men" and "Moreyba" the "God of women," a fact which made the Bimbachos accept the Catholic ideas of Christianity much more readily than was the case elsewhere. In Teneriffe the devil, who lived deep down in the Peak, was called *Guayota*, in Canary he was *Gabio* and in La Palma *Yrueñe*.

In Canary the two most sacred mountains were Umiaya near Telde, probably that now known as the *Mña* de las Cuatro Puertas (*see* index) and Tirma near Artenara. It was apparently in these that the only images known to have been made by the aboriginals were found. One of these was of stone and represented a naked youth carrying a globe, and the other, which was of wood, portrayed a naked and fully developed woman, before whom were a male and female goat, the propagation of species being evidently the object of worship. In front of the last it was customary to pour libations of goats' milk, the Spaniards describing the temple as being very filthy and malodorous. André Bernaldez, writing about A.D. 1500, speaks of Teneriffe, Canary and La Palma as the three idolatrous islands. As regards Teneriffe he must have had the image of the Virgen de Candelaria (*see* index) in his mind, but there seems to be no reason for his having included La Palma. The place of worship in the last was inside the great crater and at the base of a monolithic rock called *Idafe*, which fell down about the time of the conquest. One writer says that the Haouarythes had no conception of immortality, but he probably knew very little about it.

The clergy were chosen entirely from amongst the nobles and in Canary were called *faycayg* or *faycan*, a word bearing some resemblance to the Indian "fakir." Besides conducting the religious ceremonies the priests assisted in council, had the monopoly of prophesying, and were entrusted with the storage of the tithes, of which the surplus was preserved against times of scarcity. It was by them that the dead were embalmed, as was the case in Egypt, and by their knowledge of antiseptics they were probably physicians as well. Historians do not say whether they were allowed to marry or not.

They lived apart from the people in communities of their own, some of which were seminaries in which novices were instructed, and in which the daughters of the nobles received their education until they were married. Such seminaries or convents were jealously secluded, and access to the girls was made as difficult as possible, whilst they were guarded by very

strict laws when away from home, unchastity on their part being punished by the death of both parties. They were clothed in white like the Vestal Virgins of Rome, and were taught to assist in the ordinary household duties of the convent and in the sewing of the skins in which mummies were wrapped etc. Whether they were under the orders of a superior who devoted her life to religion is uncertain, although it is more than probable.

Prayer was sometimes accompanied by a sort of frenzied dance, but the ceremonials of which the most accurate record has been preserved are those which took place at times of great drought. In Teneriffe and La Palma, and probably elsewhere, when ordinary prayer failed, it was customary to assemble a multitude of goats on one side of a ravine and to place their kids upon the other, in order that their cries and lamentations should move the pity of the angry gods. In Hierro there was a resource beyond this, namely a little pig which lived in the cave of Astcheyta, in the district of Tacuetunta, and which was regarded as the most peculiar sanctity. When all other means failed the pig was released from its home and allowed to run about the island, a curious form of ritual of which it would be interesting to ascertain the origin.

In Teneriffe a ceremony existed which greatly resembles our own baptism, namely that the woman who first washed the head of a new-born child was afterwards looked upon as what we should call its god-mother. In La Palma, when anyone became incapacitated for work by age or illness, he could demand death, a request which the relations were not allowed to refuse. The moribund was placed in a remote cave with a little food by his side and allowed to die alone.

A few of the native legends have been preserved. It is said that when a prophet of Taoro foretold the consummation of an old tradition and the conquest of the island by a people from beyond the sea, he was put to death by Bencomo the Good. In Canary they said that "in the beginning God made a number of men from earth and water. The first who were made were specially endowed, but, when God found that they were not enough, he made another race who were condemned to perpetual servitude. To the first he gave all the flocks, to the second nothing." Another legend of Canary was that "God placed us in this island and then forgot us, but from the east a light shall come which shall re-awaken us." The same legend was current in Hierro but was more circumstantial. It was said that when the bones of a king called Yore, who answered to our own King Arthur, should be turned to dust "white houses shall come from over the sea and shall be the salvation

of the people." When Bethencourt's ships were seen to be approaching the island, the head priest went to this cave and found that the bones were dust, so that the arrival of the strangers was considered a matter for rejoicing.

In La Palma it was said that when the island was to be conquered the rock Idufe would fall. The form of prayer in consequence seems to have been a constant repetition of "Idufe, spare us." When the Spaniards landed at Tazacorte and Prince Tanaúsu with a few followers alone remained they changed their prayer to "Idufe, fall" and Idufe fell and is still supposed to serve as a sepulchre for the last heroic defenders of their country.

BURIAL CUSTOMS, MUMMIES AND MEDICINES.

Common people seem to have been merely placed in caves, which were devoted to the purpose, and in many of which great quantities of bones may be found even now. In Teneriffe and Canary, kings at least were mummified, and in the former were placed upright in the most inaccessible caves possible. Their wives were generally seated. In Canary kings and nobles must frequently have been buried in graves hollowed out from the *scoriae*, such cemeteries being usually near the sea as, for instance, on the Isleta, at Agaete and at Arguineguin. In these cemeteries the most important people, if one may judge from the care with which they were preserved, were laid north and south and their inferiors east and west. Of these bodies some were merely preserved by filling the cavity of the stomach with astringent berries.

The preparation of a first-class mummy was however much more elaborate. The entrails, etc., were first cleaned out by the butcher and the body was handed over to the priests. These dried it in the sun and treated it with various astringent vegetable extracts, which they kept by them in resinous lumps and in a form which greatly resembled modern hardbake. In Teneriffe the sap and bark of the dragon tree were employed. A mummy took some fourteen days to prepare and was sewn in from one to six goat-skins, which were excellently tanned and many of which were most remarkable specimens of needlework (*see* Museum in Las Palmas). The arms of male mummies were strapped down to the side, but those of females were crossed over the stomach. Food, such as jars of butter and milk, was placed in the caves by the side of the mummies, and in Canary dried figs have been found. In Teneriffe the embalmed body of the king was not hidden away until the death of his successor. This

was done in order that there might always be two kings, one living and one dead, though whether the mummy assisted in council or was treated as a sort of Delphic oracle is not known. It is probable that the entrails were burnt and the ashes mixed up with the astringents left inside the body.

As stated above the utmost care was taken that caves in which kings were buried should not be entered, and in Teneriffe the place in which they were buried was only known to very few people. Thomas Nicols, writing about A.D. 1526, mentions such a cave which he was allowed to visit near Güimar, and states that he was told of the existence of many others in which hundreds of mummies were to be seen, but says that he was compelled to secrecy, the favour being shown him in return for medical services rendered.

It may be interesting to recall the fact that pieces of Guanche mummies, or of the dragon tree, were highly prized as medicaments in the Middle Ages, and that both were indispensable ingredients of the philosopher's stone. Later on the dye obtained from the bark of the dragon tree was used to give that color to the wood so much prized by the collectors of old violins.

Probably the medical men were acquainted with more vegetable drugs than those used in the preparation of mummies. Viana says that a present was made by the King of Anaga to Bencomo of Taoro of the portrait of a daughter of the former painted in charcoal, colored ochres, vegetable juices and the sap of the wild fig-tree, though, as the fig-tree was not known in Teneriffe, it is obvious that allowance must be made for poetic licence.

One of the chief medicaments was butter, buried and preserved for a great length of time, the longer the better; and it is likely that, in a country where surgery or bone-setting were both unknown arts, more benefit would be derived from the massage attending the application of an unguent than from any other course of treatment.

IMPLEMENTS, INDUSTRIES, DECORATION, CLOTHING, FOOD, AGRICULTURE, ETC.

Iron was unknown and implements were made of obsidian, other hard stones, wood, and bone, both fish and animal. Fish bones were used for sewing and for fishing; cloth was made from vegetable fibres; leather was tanned as soft as any in Morocco, and considerable skill was shown in the manufacture of pottery, which was shaped by a rounded stone and without the use of a potter's wheel, as it is to-day

in such places as Atalaya, where the method of manufacture has been handed down directly from the Canarios and where no change is likely to take place until the crack of doom, unless foreign influence finds it worth while to take an interest in the matter. Handmills were used and were made of basalt hollowed out, probably by means of obsidian.

In warfare slings, stones, spears, javelins and clubs were employed. In Canary a light shield was also customary, but in Teneriffe this was replaced by a mantle wound round the left arm. The points of the spears and javelins were either hardened by fire or, as in La Palma, tipped with horn.

The musical instruments were confined to the drum and to a small reed pipe, but the people are said to have been very fond of music.

An earthenware implement, usually known under the Spanish name of *Pintadera*, was common and was probably used as a stamp for printing leather, cloth or the human skin. Various forms of beads made of burnt clay and other materials have also been found.

Those who could afford it, or who were allowed to indulge themselves, were probably fond of ornament, and some even decorated their caves by means of coloured geometrical patterns (*see* Galdar). There were however sumptuary laws, such as that in Canary which compelled the lower classes to wear the hair short. It is probable that some such restriction was placed on the use of the *Pintadera*, as some writers say that tattooing was general in Canary, and that it was customary to stain the skin permanently, whilst others maintain that it was only done during war.

Clothing must have varied very greatly. Kings are represented in monkish missals as naked but with golden crowns on their heads. This is no doubt only a conventional way of depicting them as savages, and it is far more probable that they wore at least skins in all the islands. Cloth, as well as skins, was used as a covering, and it seems that in Lanzarote and Fuerteventura females were almost concealed from head to foot, as is the custom amongst the Arabs. In some of the other islands they were however undoubtedly left entirely naked when young, and possibly, in one or two, remained so even after marriage.

The principal article of food amongst the islanders was and is *gofio*, a preparation made of toasted grain, mixed with salt and ground in a mill. The result is highly nutritious, and as it can be made at little trouble or expense and from any sort of grain, it is unfortunate that it should not replace bad bread made from bolted and adulterated flour in other places than the country districts of the Canaries. *Gofio* is used in a few

other parts of the world, but not nearly in as many as it should be. In times of scarcity the seed of the ice plant (*barrilla*) or the root of the male fern are also made into *gofio*.

From the position chosen to live in agriculture must have been comparatively neglected. In Hierro it was unknown, but in other islands very good wheat was found by the Spaniards on their arrival, as well as barley, beans, peas, yams and dates. Figs had also found their way at least as far as Canary but not to Teneriffe.

Their chief wealth however lay in their flocks, the animals known being sheep, goats, pigs, dogs and rabbits. All of these were used as food and castrated puppies were considered a great delicacy in Canary, where it is said, by the bye, that the sheep had no wool. Fish and, in Hierro, a large lizard were also eaten and all were cooked, fire being obtained by means of friction.

As has been shown their habits were mainly pastoral, and indeed they have left a breed of goats behind them which, as yielders of milk, are second to none. The shepherds, who included in their number both king and peasant, invented a method of whistling to one another across the ravines, and even to-day two men will carry on quite a long conversation in Gomera, though the art has not survived so well elsewhere. Dr. Sprat, Bishop of Rochester, a man of a very easy conscience, when writing to the Royal Society of London about 1650, says that he met an Englishman in Teneriffe, who had persuaded a Guanche to whistle into his ear and was rendered deaf for fifteen days in consequence.

In Canary fish were driven on shore by men swimming out to sea and beating the water to frighten the fish, which were then caught by others with spears, baskets and nets. It has been said that in Teneriffe the Guanches could not swim and that the people of La Palma did not fish. The first may be true but the latter is not, as it is now known that the Haouarythes eat fish.

Water was usually drunk, but in Hierro, if not elsewhere, a fermented liquor was made from the berry of the laurel (*visnea mocanera*). It is even possible that a spirit was distilled from the same, which perhaps accounts for the Bimbachos being so fond of dancing.

MADEIRA.

THE largest of a small group of islands belonging to Portugal, is situated in latitude $32^{\circ} 37'$ to $32^{\circ} 52'$ N., and longitude $16^{\circ} 39'$ to $17^{\circ} 17'$ W., 1,164 sea miles (2141 kilos.) S.W. of the Lizard, and 535 sea miles (984 kilos.) W.S.W. of Lisbon, is about 38 miles (60 kilos.) long by 15 (24 kilos.) broad, and its superficial area is about 240 sq.m. (574 sq. kilos.) It is divided into 10 concelhos and contains 134,011 inhabitants.

The form is oval and the surface mountainous, a number of deep ravines radiating on all sides from the central ridge, of which the highest points are grouped around the water-shed of the Grand Curral (Curral das Freiras). A narrow neck of considerably less elevation connects the before-mentioned mountains with the Paul de Serra, an extensive elevated moorland on the western side of the island. The highest mountain of all is the Pico Ruivo, 6059 feet.

The loose nature of the soil has led to great loss by denudation and most of the ravines are more or less precipitous, especially on the north, where the greater power of the sea and the greater prevalence of rain in the winter, both aided to a certain extent by the geological substratum, have worn away and hollowed out a succession of gorges, whose wooded summits, dripping rocks and bubbling streams are full of grandeur and at the same time possess a beauty of their own, a beauty dependent upon that wonderful fecundity seemingly peculiar to a volcanic soil, which is here aided and rendered possible by the mild climate, under which the yam and the sugar-cane at the bottom join hands with the pine-tree, the heather and the laurel at the top. The warm vapours which surround the island, the almost hothouse-like air which generally prevails in its valleys and the colder atmosphere of the unprotected mountains, naturally give a great latitude to the vegetation. All sorts of grain known to Northern Europe, all flowers and fruits which are not absolutely tropical or arctic, can be grown, and the ferns, mosses, lichens and indigenous flora or fauna are a constant attraction to the student of nature. Cultivation is rarely seen above the 3,000 feet level.

The foregoing remarks might lead to the supposition that the valleys on the north are grander and more beautiful than those on the south. This is not altogether the case and those unable from want of time or unsettled weather to be away from Funchal for more than a day, will find an excursion up the Grand Curral and across the top of the Serra d'Agoa sufficiently impressive.

An abundance of moisture is derived from the clouds which, during a great part of the year, hang round the mountain tops. During the summer all the streams on the south are dry but on the north many continue to run.

Only that water is allowed to run away, however, which is not required for irrigation, long aqueducts (*levadas*) catching and carrying streams for immense distances. The most noticeable work of the kind is at the Rabaçal, where the water is taken by means of tunnels to the southern slopes, a praiseworthy undertaking of great importance to the island.

Volcanic energy seems to have slumbered for many centuries. Evidences of it are to be seen all over Madeira, but many ages must have elapsed since it was so violently exerted as has been the case, even recently, in the Canary Islands. Where cinders or slag are found, they are fast resolving themselves into earth, their sharp edges are rounded off, and they are generally hidden beneath a carpet of moss or a mantle of verdure.

Sugar was once the staple product of the island—witness the arms of Funchal, five sugar-loaves—but this was later on almost abandoned for the vine. Special and detailed information on this and similar subjects will be found in the commercial appendix.

There is only one macadamised carriage road—namely, the New Road, which leads to Camara de Lobos, 6 miles ($9\frac{1}{2}$ kilos.) west of Funchal. Sledges drawn by bullocks (*carros*) are, however, able to penetrate the country for a few miles from the city along certain tracks. Hammocks are largely used and good horses may be had, but the healthy pedestrian is best off if he does not mind roughing it a little. The natives, in fact, rather than drive mules, prefer carrying goods on their shoulders and may sometimes be met with in large parties, the leader playing a *machêta* and the rest singing as they walk. Saddle-bags are unknown and the guide insists on carrying the rider's luggage, which he does not seem to find an encumbrance. Be sure that the animals are well shod as the roads are very greasy when wet.

The peasants are extremely economical and their habits and manner of living simple. Naturally ingenious, they have learnt how to make a number of small articles to sell to visitors or the wealthier classes, such as basket-work, lace, embroidery, rough jewellery, etc.

Some of the country dresses worn on feast-days are little altered from those worn a century or more ago. The customs much resemble those of the Spaniards, serenades, admiring leers and whispered conversations at the window being the accepted method of making love by both rich and poor. The people on the whole are fairly prosperous, in spite of over-

crowding, and the quantity of black broadcloth and more or less carefully groomed top hats to be seen on a Sunday or Feast Day, bespeak a desire for respectability almost English in its intensity.

Our own countrymen have been so long visitors to the island that they are regarded almost as natives and many of the Portuguese can make themselves fairly well understood to those ignorant of their language.

Leprosy is found, chiefly in the west.

There are no harbours in Madeira, even Funchal being no better than an open roadstead. A little shelter, however, is provided by the Pontinha, a stone causeway connecting the Loo Rock (Ilheo) with the shore, where tugs can lie at anchor and rowing boats can land in wet weather. There is also a short pier with steps, but, as a rule, passengers are landed on the beach.

Specimens of all the ferns found in the island can be bought of a peasant woman near S. Roque, for about 3\$000.

Where accommodation cannot be otherwise obtained, it is often possible to find an empty room, and sleep in the hammock, when one is taken.

The following excursion is recommended to those wishing to get a good idea of the island in a short time. From Funchal *viâ* the Poizo and Ribeiro Frio to Santa Anna, one day. From Santa Anna to Boa Ventura, or São Vicente, two days. Back in the first case *viâ* the Torrinhas, or in the second *viâ* the Encumiada, and down the Grand Curral (Curral das Freiras) three days. Horses can be used along all these routes. Outside the limits of Santa Anna and São Vicente on the N., travellers should use hammocks or go on foot, as the roads are very steep. Telegrams regarding accommodation can be sent all round the island except to Seizal. The post goes two or three times a week.

The best trip for those who are only on shore for two or three hours is up the Caminho do Meio, past the Quinta Reid, to the Curralinho (Curral dos Romeiros; *angli*: Pilgrim's Fold); that is to say to the point below the Pico do Infante where the road branches off to the left for Mount Church. This is better than the road to Mount Church where the view is greatly obscured by walls and trees. The return by running cars is equally exciting. Other pleasant drives are past the Convent of Santa Clara to the Peak Fort, whence there is a very fine view, or up the Hortas Road, along the whole length of the Levada and down the Saltos Road. The ascent to Mount Church is only repaid by the rapid manner in which one is brought back.

The journey up by the new railway, the fares for which will be found a few pages farther on, is however more picturesque and more convenient. The railway in fact, utilitarian as it may seem in a place like Madeira, is an undoubted advantage both to visitors and residents; allowing them to reach a higher level easily and at little expense. About $1\frac{1}{2}$ hrs. is quite sufficient for any of these three trips.

Visitors stopping some time in the island will soon exhaust all the excursions immediately round the town and it is unnecessary to enumerate each of these in their order of merit, as they are all given, with the time necessary to make them, in their proper places.

To any who wish to extend the three days' trip spoken of above, attention is called to the fact that the sunny side of the island, both east and west of Funchal, is drier and less beautiful than the north. That is to say that the neighbourhoods of Santa Cruz, Machico etc., on the one side and Calheta, Paul do Mar etc., on the other do not repay for the trouble taken in getting there, although the villages themselves and the methods of cultivation adopted etc., may be worthy of study.

Instead of going directly to Santa Anna by the Poizo Pass it can be reached by the Lamaceiros Pass, Porto da Cruz, the Penha d'Agua and Fayal. By taking this route the beautiful views of the Ribeiro Frio and R. do Metade are lost but the valleys of Santa Cruz and Machico are seen. In order to include the country missed out a one day's excursion to the Pico Arrieiro should be made. A description of this will be found elsewhere.

On the west of the island the coast can be followed to Porto Moniz and a return made along the south side of the Ribeira da Janella, past the Rabaçal, the Paul da Serra and São Vicente, *or* São Vicente can be left out and a descent be made to Ponta do Sol *or* the road home from São Vicente be joined at the Encumiada. In the last two cases it would be more convenient to sleep at the House of Refuge at the Tanquinhas *or* to take a tent.

If there is no wish to see the south of the island, by turning to the left before reaching Port Moniz and by keeping to the north bank along the Fanal the distance is considerably shortened, but in either case at least five days are necessary and, in order that a little rest may be enjoyed and places of interest visited, it is much better to allow a week or more.

Anyone who has made the above excursions will have a very fair idea of what Madeira is like.

FUNCHAL, with about 35,000 inhabitants, contained in nine parishes, is the capital of Madeira, the seat of a bishopric, and the only port where ocean-going steamers call.

Passengers are landed in boats on the open beach, or on the steps of the little stone jetty, except in very rough weather, when they are disembarked on the Pontinha under the shelter of the Loo rock.

All ships are met by the hotel agents. Some of the lines of steamers land the passengers free of expense ; but where this is not the case the port charges are :—passengers one shilling each way, or, when an ordinary amount of luggage is taken, 800 reis each. Custom house officers for superintending boats loaded with luggage or goods, 265 reis each. For each package whether opened by them or not, 70 reis. For leaving a package in bond and reclaiming same, 70 reis plus 500 reis for storage. Worn linen, clothes, etc., for personal use enter duty free. Passengers landing at night cannot obtain their heavy baggage till next morning. They should therefore carry necessities in a hand bag.

CUSTOM DUTIES.

All goods for use in the island pay duty according to a fixed scale, extracts from which will be found elsewhere. Such duties are exceedingly high, and are according to the law passed in February, 1892, which is economically a bad one, and may be modified at any time. The duties paid on furniture, plate or any other article brought in for temporary use will not be returned. It is not advisable to carry more than a small quantity of tobacco, and on no account should visitors run the risk of trying to smuggle anything.

PASSPORTS.

Visitors stopping in the island less than a fortnight should obtain a police ticket (*cedula*) costing 200 reis, within twenty-four hours of their arrival. These must be shown when leaving the island.

Those stopping over a fortnight must have their passport viséd. The charges for the visé are 3\$300. Those unprovided with passports must obtain a certificate of nationality from the consul, costing 2s. 6d., and afterwards a passport from the authorities costing 4\$105 without which they cannot leave the island. All formalities should be left to the hotel proprietors. One passport suffices for a family.

HOTELS.—The New Hotel, in a commanding position on the cliff to the W. of the town; the Imperial, a little closer in; the Santa Clara, towards the back of the town and some height above the sea; the Carmo (Miles') Hotel, to the E. of the Cathedral; the Hortas Hotel, a little above Miles', and chiefly frequented by German visitors; the Royal Edinburgh, on the west of the Theatre, all belonging to Mr. Reid; Jones' Hotel, "Bella Vista," well situated near the New Road; Cardwell's Hotel "Victoria," breezy position on the New Road. Charges at all these hotels are from 8s. to 12s. a day or so much a month.

The Hotel "Rosa," facing the Public Gardens, 1\$400 to 2\$000 a day; the Central; the Universal; more moderate, both inside the town.

BOARDING HOUSES.—Mrs. Smart (private), 29, Rua do Conselheiro, £8 a month, cheerful position overlooking the Public Gardens; Madame Musard, same prices, near the New Road.

NEWSPAPERS.—Diario de Noticias :—Diario do Commercio.

For Advertisements relating to Funchal see pages 2 to 14.

PUBLIC BUILDINGS.—The *Town Hall* or Camara Municipal, in which the Courts of Justice are held and the Concelho holds its meetings, is situated near the Collegio Church and is of little interest; the *Prison*, just below the Cathedral; the *Governor's Palace* or Palace of São Lourenço, a peculiarly constructed building with a somewhat Chinese appearance, in which the Meteorological Observatory is situated and below which are the *Fontes de João Diniz*, from which those living in the city fetch their drinking water; the general *Hospital*, facing the Praça da Constituição, where medical classes are held; the *Leper Hospital* of São Lazaro; the *Empress's Hospital* (Hospicio.) on the way to the New Road, built at a great expense by the late Dowager Empress of Brazil in memory of her only child, the Princess Amelia, who died of consumption in Madeira in 1853, and adjoining which is an Orphanage where the inmates are trained to become domestic servants; the *Asylo da Mendicidade* or Poor House, where the indigent poor receive relief and to which all visitors should make a donation according to their means, so that they may afterwards conscientiously refuse to give alms to the impudent

and importunate beggars in the streets; the *Peak Fort* or *Castello do Pico*, built early in the seventeenth century, overlooking the town and worthy of a visit on account of the view it commands; the Fort on the *Loo Rock*, now connected with the shore; the Custom House, *Alfandega*, which was commenced very early in the sixteenth century and was formerly an ecclesiastical building; the *Fish* and *Vegetable Markets* below the *Alfandega* which are worthy of a visit in the early morning; the *Opera House*, a fine new building with a handsome interior, where a company is generally engaged for the winter.

Besides the public buildings proper there is a small but very interesting *Museum* in the *Seminario* just below the *Carmo Church*, to which visitors may gain admission at certain hours by sending in their cards. The contents are well arranged and intelligibly displayed.—*The Seamen's Hospital* on the New Road owes its origin to the English residents.

The walls of the city were commenced in 1572 and practically completed in 1637, though the *Varadouros* gateway, leading up from the beach to the centre of the town, bears an inscription stating that they were absolutely finished in 1689. Their demolition began about 1700. The *Fort of San Thiago* on the east of the town, now used as a barracks, was built in 1614.

CHURCHES.—The *Cathedral* or *Sé* (1485 to 1514) is of little architectural merit. The interior is gaudily decorated. The fretted ceilings at the chancel end are indifferent examples of the style of decoration almost peculiar to Madeira, the Canaries and certain parts of the Spanish Peninsula; a style which is said to have first appeared in Seville about the period of the expulsion of the Moors. A large silver crucifix of the early part of the sixteenth century, which can only be seen on application, is of considerable merit. The *Igreja do Collegio* (built by the Jesuits) has a handsome façade and the interior is decorated in an effective and imposing manner. The adjoining monastery is now used as a barrack—*S. Pedro*—*Carmo*—*N.S. do Socorro*, the oldest church in the city (the last three are of no special interest). In the *Socorro*, however, is the shrine of *San Thiago Menor* (St. James the Less), the patron Saint of the city, to which there is a procession of notables every year on the first of May. The procession commemorates the cessation of a plague in 1538, immediately after the despairing authorities had handed over the wand of office to the keeping of the saint. There are also several chapels both public and private.

Besides the churches there are several *Convents*, some with chapels and some still used as retreats for novices and as

places of worship. First among these is the *Santa Clara*, founded in 1492, for centuries famous for sweetmeats, feather-flowers, etc., which may still be purchased through intermediaries or directly from the inmates by means of the turnstile. The chapel is well worth a visit for itself, besides which it contains the tomb of Zargo, the discoverer of the island. The *Encarnação—das Mercês—do Bom Jesus—de Santa Izabel*.

FOREIGN CHURCHES.—English Church, Rua de Bella Vista, built somewhat on the model of the Pantheon at Rome, because of the law which then forbade any building to resemble a church which was not to be used as a Roman Catholic place of worship. The Scotch Free Kirk, Rua do Conselheiro, facing the Gardens. The Becco Church, Becco dos Aranhas.

CLUBS.—The English Club, close to the jetty, has a good library, etc., and admits monthly members. Portuguese Club. Sailors' Rest, facing the public gardens.

SQUARES, ETC.—The broad *Entrada da Cidade* leads up from the beach to the *Praça da Constituição*. The latter occupies the space between the Cathedral and the Governor's Palace. Both are planted with trees and are much frequented. Adjoining the Praça are the *New Public Gardens*, on the site of an old Franciscan monastery. The band plays here twice a week. The *Praça Academica*, to the east of the custom house. The *Stone Jetty*, which could be improved by being provided with seats. It is to be hoped that the Municipality will see their way at some future period to make this pier of some service to visitors to whom the town and island owe so much, to remove the unsightly crane from the entrance to the town, and to expend a few dollars in making the level road leading to the Pontinha, along which the tramway is laid, passable for ladies.

Funchal is a picturesque town, beautifully situated in a species of vast amphitheatre, the summits covered with verdure and the sides with villas, gardens and orchards. The houses gradually approach one another, form themselves into streets and descend to the sea-level, where the dark Loo Rock, the Governor's Palace, the line of houses, the signal tower, the custom house and the black beach, form a fine contrast to the deep blue of the arena or sea. The gladiators are replaced by some half-dozen ships and an infinity of little boats, hurrying out to meet some newly-arrived steamer or speeding away the parting guest by endeavouring to sell him

a basket deck-chair, or by still smaller boats, each containing two little boys, shouting and gesticulating for money to be thrown into the water for them to dive and fetch up. The terraces covered with flowers, here and there a wall crimson with one creeper or orange with another, the sound of the church bells as a relief from the monotonous four bells or eight bells on board ship, all invite the passer-by to spend at least some hours on *terra firma*. Those who have not time for more, generally ascend to the Mount Church and return by running *carro*. To many people the climate is enervating, and the slippery cobble-stone streets make walking laborious. Those, therefore, whose systems require tonic should choose a breezy situation. If strength permits, excursions should frequently be made to the mountains, the change of air, even if only for a few hours, being of great advantage. All the hotels will provide luncheon in a basket. The ascent to the mountains from the south is much more gradual than is the case on the north.

In 1724 a great flood half destroyed Machico and severely damaged Funchal. In 1803 another was nearly as disastrous and in 1748 the latter city suffered considerably from an earthquake. Curiosity being generally awakened by the tower on the beach where people are landed, it may be mentioned that it was built in 1796 to facilitate the discharge of cargo. Since then the beach has extended itself a good deal, thus rendering it useless for the purpose. It is now a signal station.

WALKS, RIDES AND DRIVES NEAR FUNCHAL.

(For cost of horses, boats, hammocks, etc., refer to the end of Madeira.)

Times given for riders without allowing for stoppages.

Those taking hammocks must add to the time in about the proportion of five to four.

A. *To the East of Funchal*.—The direct road, or that *viâ* the Lazaretto, both lead to *Palheiro* (2,455ft.; $3\frac{3}{4}$ m.=6kil.) in about an hour. An order must be obtained to enter the Quinta, of which the park-like grounds command good views. A return may be made by the road which leaves the main track a little on the Funchal side of the Quinta gates and crosses the face of the hills, after which descend the *Caminho do Meio* in running *carro*, altogether about two hours out and home. Or the ride may be prolonged to *Camacha* (2,203ft.; 6m.=9 $\frac{1}{2}$ kil.), the chief summer resort of residents, in $1\frac{3}{4}$ hours, and back by the *Pico da Silva* and the *Caminho do Meio*, altogether $3\frac{1}{2}$ hours, or home from *Camacha viâ Caniço* (less attractive) in the same time. Or instead

of returning from the Pico da Silva the *Poizo Road* may be followed to the summit, some very good scenery being enjoyed, and the road past the Mount Church taken on the way home; time five hours. Various excursions can be made by those living in Camacha, for which see Santa Cruz. From Camacha to the Church of *S. Antonio da Serra* takes about two hours each way.

B. *Behind the Town*.—To the *Mount Church*, the prettiest route to which lies along the *Saltos Road*. In the morning numbers of peasants will be met on this, as on other roads to the mountains, running down to the town, their sledges piled high with fuel, vegetables, etc. (For railway, see page 86.)

The church (*Nossa Senhora do Monte*) was built about 1470, and is 1,965 feet above the sea. (Distance from the city, one hour; $2\frac{1}{2}$ m.=4kil.) The façade, which is approached by a long flight of steps, is flanked by two towers and has a somewhat imposing appearance. The interior is roughly decorated with indifferent paintings. The image of the Virgin on the high altar is much venerated on account of the miracles she is said to have performed. Tradition relates that she appeared about the year 1700, at the fountain which is situated some one hundred and twenty yards down the path to the N.W. of the façade. A shrine and a money-box will be found at the spot whence the water issues. In the road and opposite the church is a little wine-shop whence the running *carros* start on their downward course by the direct *Monte Road*. If a return be made at once by one of these the whole journey occupies about $1\frac{1}{4}$ hours; or, it is possible to return by the *Curralinho*, the wildest piece of scenery near Funchal, and descend the *Caminho do Meio*, also by *carro*. This is a very fine excursion. Time, rather over $2\frac{1}{2}$ hours. A view of the *Curralinho* can be obtained from a point about ten minutes from the church.

At a point in the *Torrinhas Road* some one-third up to the *Mount Church*, there is the chapel of *N. S. da Consolação*. Here the *Levada* of Funchal crosses the track, and may be followed on either side for some distance amidst pleasant views, etc.

A much longer ride past the *Mount Church* is to the *Pico Arrieiro* (5,893 feet), eight hours there and back. An early start should be made. The summit, which shows evident traces of volcanic action, abuts on the *Grand Curral*, of which, as well as of the central group of mountains, splendid views are obtained. Amongst the latter are the *Pico Ruivo*, as *Torres*, *Cidrão*, etc., and a beautiful bird's-eye view of the *Metade* and adjacent ravine. Near the summit are some holes (*poços*) in which the snow and ice are stored during the winter for use in the summer months.

C. *To the North-west.*—The road *viâ Santa Clara* and the *Peak Fort* leads past *S. Roque Church*, built in 1579 (1,129 feet), to the little Chapel of the *Alegria* (picturesquely situated), and back again in $2\frac{1}{4}$ hours, or the bed of the *R. de S. João* can be crossed to the *S. Antonio Church* (951 feet), and thus home in a little under three hours. Another ride is across the bridge of *S. João* past the *Maravilhas* to *S. Antonio*, returning *viâ S. Amaro* and *S. Martinho* (764 feet) in $1\frac{3}{4}$ hours, or as far as the *Trapiche* or the valley of *Vasco Gil*, in $2\frac{1}{4}$ and $2\frac{3}{4}$ hours respectively, or descend to the left beyond the Church of *S. Amaro*, which dates from 1460, and home by the *New Road* in about the same time. The last-mentioned rides command some fairly good views of the *Grand Curral*, especially if the hills are ascended.

This part of the island shows perhaps the most recent signs of volcanic action, and, in the *Pico da Cruz*, which is close to the city, the breaking away of the crater-wall and the stream of lava issuing towards the sea, are vivid and plain to the eye without the trouble of leaving the road.

The upper part of the village of *Camara de Lobos* is reached by the road past *S. Martinho*. This is the route followed when going to *S. Vicente*. See Expedition No. 5.

D. *To the West.*—A pleasant ride or drive, for carriages can pass nearly all the way, is along the *New Road*, which is fairly level and the greater part of which is macadamised. *Camara de Lobos*, where it terminates, is a quaint little fishing village with some 6,000 inhabitants, and no inn, about $5\frac{1}{2}$ miles or 9 kil. from the city. Trees have been planted for some distance along this Rotten Row of Madeira, as it is proudly described, and certainly this tardy acknowledgment on the part of the Portuguese Government of the benefits of civilisation has already greatly improved Funchal, giving an outlet and a means of transport to those anxious to live in the healthy, breezy atmosphere to be found on the cliffs. In the cliff near *Gorgulho* is an opening called the *Cano de Folle*, or *Blacksmith's Forge*, through which the sea is visible, and whence, in rough weather, a good-sized water-spout is often ejected. The *R. dos Socorridos*, crossed by a three-arched bridge, was a flowing river when the island was first visited and derives its name from the rescue of two of *Zargo's* men who were nearly drowned whilst crossing it. In the cuttings along the road many beds of fresh cinders and volcanic mud will be observed. Time of ride, out and back, $2\frac{1}{2}$ hours. *Camara de Lobos* is of little interest.

Passing through the village, a steep ascent leads to the summit of *Cabo Girão*, a magnificent headland 1,920 feet high. Those wishing to visit the brink of the precipice must

go a little to the left. Time, both ways, six hours from Funchal. A little over an hour from here is the *Achada do Campanario*, $8\frac{1}{2}$ miles = $13\frac{1}{2}$ kil., where is a hollow chestnut tree over thirty-five feet in girth, said to be the oldest and largest in the island. The interior is used as a summer-house and has been fitted with a door. This spot commands a good view of the western mountains, Paul de Serra, etc. A descent can be made to the beach by a pathway cut in the cliff. Beyond this point *see* Expedition No. 6.

EXPEDITIONS FROM FUNCHAL.

PARTIES of more than three should send a telegram, say two or three days beforehand, to acquaint hotels with their arrival. A spare horse-shoe, etc., should be taken.

NO. 1.—TO THE EAST. (*Santa Cruz, Machico, Caniçal, the Fossil Beds, etc., with excursions from the same places in small print, including the Portella and Lamaceiros Passes to Porto da Cruz and Fayal.*)

The road passes the Fort of S. Thiago, the Church of N. S. do Socorro, and the Lazaretto (1 m. = $1\frac{1}{2}$ kils.), crosses the R. Gonzalo Ayres, runs past the chapel of N. S. das Neves, ascends to a height of 1,245 feet, and so over the *Cabo Garajão* (Brazen Head), which is not visible from the land side, to *Caniço* ($4\frac{3}{4}$ m. = $7\frac{1}{2}$ kil.), *Porto Novo*, *Gaula*, the chapel of S. Pedro and *Santa Cruz* (three hours; 11 m. = 18 kil). The scenery is uninteresting.

Santa Cruz. A small town largely devoted to the fishing interest. Good Portuguese hotel, well situated, charge about 2,000 reis per day. Church of S. Salvador with tombs.

EXCURSIONS.—To *Madre d'Agoa* (1,411 feet), three hours both ways. Horses cannot go quite up. The point aimed at lies on the E. side of the R., where the *levada* leaves the bed. A pretty spot, a short distance above which there is a good waterfall.

To the Lagôa, the Church of S. Antonio da Serra and through the Portella to Porto da Cruz and Fayal.—Ascend to the left a little beyond Santa Cruz to the *Lagôa* (about $1\frac{1}{4}$ hours). This is an unbroken crater where a pool of water will be found in the winter and commands a good view of the *Lameira*, or marsh, and the surrounding country. A quarter of an hour farther is the church of S. Antonio, 2,059 feet, scarcely worth visiting.

From the paths which join near here the following selection of routes can be made. To *Machico*, *see* Machico, or to the *Lamaceiros Pass*, *see* next paragraph, or to the *Pico da Suna*, 3,416 feet, $1\frac{3}{4}$ hours, whence there are good views as far as Santa Anna, Pico Ruivo, etc., or past the *P. d'Aboboras*, 4,769 feet, to the *Poizo* house in $1\frac{3}{4}$ hours, and so on to Funchal or Santa Anna, *see* Expedition No. 3.

The track leads on to the *Portella Pass* (1,800 feet, $2\frac{1}{4}$ hours), a good view though less extensive than from the *Lamaceiros*, passes through the narrow little cutting and descends to *Porto da Cruz* in $3\frac{3}{4}$ hours from the start (distance 10 m. = 16 kil.). No inn. A rough road leads on the south of the

Penha d'Agua, a remarkably bold mass of rock 1,915 feet high, commanding good views (see Excursions from Santa Anna, Expedition No. 3) to *Fayal* in $1\frac{1}{2}$ hours (6m. = $9\frac{1}{2}$ kil). From *Fayal* to Santa Anna $1\frac{1}{2}$ hours see Expedition No. 3.

To Fayal viâ the Lamaceiros Pass.—The same road is followed as far as St. Antonio da Serra. From here branch off to the *Lamaceiros*, the summit of which (2,180 feet) commands a magnificent view, infinitely finer than that from the Portella. The *Penha d'Agua* is especially prominent from here. Time up from Santa Cruz, about $2\frac{3}{4}$ hours. From here descend to *Porto da Cruz*, total four hours. For *Fayal*, see above, or a shorter way to Santa Anna may be taken, which does not touch *Porto da Cruz*.

Camacha can be visited from Santa Cruz in from one hour and a half to two hours.

To the Poizo House.—A direct road leads from Santa Cruz to the *Poizo* in about three hours. For the *Poizo*, see Expedition No. 3.

Leaving Santa Cruz, a barren country is passed through to *Machico* (four hours; 15m. = 24kil. from Funchal).

Machico is a fishing village in which accommodation can be obtained for a limited number. The Chapel of S. Izabel is said to be built on the spot where Machin and his wife, referred to in the history of Madeira, were buried. A cave, the largest yet found on the island, which is known as the *Furna*, can be visited.

EXCURSIONS.—*To the Portella Pass.*—A direct road leads to the summit in two hours. Rather over half-way up, a turning to the left leads to S. Antonio da Serra. For further information refer under Santa Cruz.

To Caniçal.—A footway, where horses cannot pass, leads along the coast in about an hour. There is no object in coming here.

To the Fossil Beds.—These should be visited by boat (see Boat I.). Time from *Machico*, about an hour. There is a small ascent to make from the beach on the east side.

A great deal of discussion has taken place about the origin and date of this curious sandy stretch with its apparently fossilised trees. The most generally accepted theory is that the stone branches are casts or stalactites formed in the sand by the gradual action of rain water, which has dissolved the calcareous matter and caused it to harden into the peculiar shapes found. Similar beds are to be seen in many places.

The spot is a pleasant one for a picnic, and the north coast as far as S. Jorge may be seen from the neighbouring rocks.

To the Curral do Mar.—A picturesque ravine to the east of *Porto da Cruz*. Time necessary, three hours each way.

No. 2.—TO THE N.E. *From Funchal to Porto da Cruz and Fayal, viâ the Portella (a) and Lamaceiros (b) Passes.*

Neither of these routes is recommended from Funchal and both will be found sufficiently described under Santa Cruz and *Machico*. To those who wish to take them, however, the following instructions are given :—

(a) To *Camacha*, $1\frac{3}{4}$ hours; S. Antonio da Serra, $3\frac{3}{4}$ hours (see Ride A); to the *Portella*, $4\frac{1}{2}$ hours; *Porto da Cruz*, $6\frac{1}{4}$ hours; *Fayal*, $7\frac{3}{4}$ hours; and *Santa Anna*, $9\frac{1}{4}$ hours (see Expedition 1, Excursions from Santa Cruz); or, up to the

Poizo House ($2\frac{1}{4}$ hours), and past the Pico d'Aboboras to S. Antonio da Serra, four hours (*see* Expedition 3) and so on as above.

(b) The Camacha route can be taken as before, but the road is left before arriving at S. Antonio. Time to the top of the Lamaceiros, $4\frac{1}{4}$ hours (refer to Expedition 1, Excursions from Santa Cruz); *or, viâ* the Poizo House, and along the ridge to the Lamaceiros Pass, about $4\frac{1}{4}$ hours after which refer as above to Excursions from Santa Cruz; *viâ* the Lamaceiros Pass is a trifle shorter than *viâ* the Portella Pass.

Mention may here be made of the fact that a path along the top of the hills connects the Poizo with the Lamaceiros and eventually the Portella Passes.

No. 3.—*From Funchal viâ the Poizo and Ribeiro Frio to Santa Anna, with the Coast Roads from Santa Anna to Fayal on the E., and Boa Ventura on the W., and Excursions from Santa Anna.* The best road in the island.

Quit Funchal by the straight road to the Mount Church, $\frac{3}{4}$ hour (if by the Saltos road, one hour. For description *see* Ride B), and leaving the church behind pass over the *Pico Arrebentão*, whence a good view of the Curralinho, the Pico da Silva, Pico do Infante, the Desertas, etc. At $1\frac{1}{2}$ hours a gate is passed through, and the sheep-grazing district or downs are entered. The pine trees are left behind, and bilberries, etc., take their place, the road being only paved where the streams render it necessary. At $2\frac{1}{4}$ hours ($6\frac{1}{4}$ m. = 10 kil.), the *House of Refuge on the Poizo* is passed.

Free accommodation is provided on the ground floor. On the upper storey, there are two bedrooms, 200 reis the night being asked. Those wishing to stop here pay 1,000 reis per diem.

The path which turns to the right a little above the house leads to the Lamaceiros and Portella Passes, S. Antonio da Serra, Machico, Santa Cruz, etc. (*see* Expedition No. 2).

A few hundred yards above the house, the summit (4,553 feet) is gained and the north coast appears with the *Penha d'Aguia* below, and Porto Santo in the distance. On the left the mountains of as Torres and the Pico Ruivo. The road, which is here well paved, now descends sharply, first laurel and later other woods are entered, and at three hours the bridge over the *Ribeiro Frio* is crossed, a most charming spot.

On passing the second bridge, climb up to the *Levada do Furado* (close by), follow the watercourse through two cuttings and one of the most magnificent views in the world is below, around and above the enchanted traveller. In the depths beneath, the stream of the Metade valley winds in and out like a silver thread; poised above are the Picos Arrieiro, Ruivo and as Torres, and on all sides the most luxurious vegetation availing itself of every crevice and cleft which the precipice affords. Those who are not afraid can follow the *Levada* to its source in the Pico Arrieiro.

Continuing the road, scenery is passed through only inferior to that on the Levada. At $3\frac{3}{4}$ hours the *Cruzinhas* is reached, and the road divides. That to the right leads to *Fayal* in two hours; that to the left descends sharply, several ravines are crossed, the quaint little houses with their ridged thatch and universal yam gardens lending a character of their own to the valleys, whilst the woods higher up are often scarcely to be distinguished from those of our own country, only the blast of the horn and the sight of the hounds sweeping full cry across some hollow being necessary to transport us back to our own homes. The sticky country lane, however, is unknown, though at times, and in wet weather, the slippery surface of the Madeira pathway is scarcely an improvement. At $6\frac{3}{4}$ hours, the Cortado ridge is crossed, with a fine view of the Penha d'Agua, after which a gradual descent brings us once more to hydrangea hedges and cultivation, the paved upper road to *São Jorge* is passed leading away to the left, and at $7\frac{3}{4}$ hours the hotel at *Santa Anna* is reached (1,090 feet).

Santa Anna is a scattered village, of which the chief charm lies in the number of walks around it and the excursions which can be most conveniently made from it. Mr. Reid's Hotel (about twenty guests), 8s. to 12s. a day, is a favourite resort during fine weather or in the summer months.

EXCURSIONS.—*To the E.*—The coast road, which is fairly good, leads to *Fayal* in $1\frac{1}{2}$ hours. From *Fayal* to *Porto da Cruz*, $1\frac{1}{2}$ hours, see Expedition No. 1, Excursions from *Santa Cruz*.

To the W.—The coast road to *Boa Ventura* starts immediately below the Hotel, crosses the valley, and descends sharply to *Po S. Jorge* in half an hour, ascends the other side to *S. Jorge Church*, after which the paving suddenly becomes worse. At $1\frac{3}{4}$ hours it falls abruptly, crosses a fertile valley, and at $2\frac{3}{4}$ hours passes round a precipice at about 600 feet above the sea. Again the road leads down, and at three hours the *Ponta de Boa Ventura* is crossed, after which another headland is rounded, a sharp turn is taken up to the left, the path dives round the Church, and at $3\frac{1}{2}$ hours *Boa Ventura* and the hotel are entered ($12\frac{1}{2}$ m. = 20 kil.) For description, etc., see Expedition No. 4. The scenery along this route is wild and beautiful and the proximity of the sea most agreeable.

To the Penha d'Agua.—Time, six hours there and back.—Follow the coast road through *Fayal* and towards *Porto da Cruz* as far as the *Terra de Batista* ridge. Here branch off to the left and ascend by a steep path this wonderful isolated cliff. From the top are seen the *Arrieiro*, *Torres* and *Ruivo Peaks*, the whole of the coast from *S. Lorenzo* and the lesser mountains as far as the *Pico do Arco de S. Jorge* on the W.

To the Levada dos Vinhaticos.—This lovely Levada starts from high up in the R. Secco. From *Santa Anna* it takes rather over two hours to reach the point from which the walk along the aqueduct commences. After another forty minutes a long tunnel is passed through and the course can be followed up as far as desired by those who are accustomed to precipices. The views are most striking and the excursion well repays any trouble taken.

To the Pico Ruivo.—This, the highest point in the Island, is best ascended from *Santa Anna*. An experienced mountaineer can reach it with much labour, however, either from the *Cural* or across from the *Torrinhas* mountains. Time required from *Santa Anna*, $3\frac{1}{2}$ hours up, and three hours

down. Hammocks can go to the summit, but horses must stop a little below. On the way the Homem-em-Pé (man on foot) is encountered, a basaltic column bearing witness to the great loss by denudation even at this height. The road passes the base of Encumiada Alta, which may be ascended if desired (5 893 feet), crosses the neck, and commences to climb the *Pico Ruivo* itself. From the top (6,059 feet) there is a marvellous panorama. On the S. a thin wall of rock connects the Ruivo with the Torres Peaks (highest point Pico del Gato, about 6,000 feet). Farther eastward appear the mountains and ridges through which the Poizo, Lamaceiros and Portella Passes are conducted, with the Serra de S. Antonio and valley of Machico beyond. To the E. lies the ravine of the R. Secco and to the N. the deeply seamed slopes and mountains between Fayal and Boa Ventura. To the W. are the Canario (5,449 feet) and Torrinhas (5,980 feet) Peaks, beyond which again the high moorland of the Paul da Serra (4,611 feet)—see Expeditions 5 and 7—with its own Pico Ruivo some 730 feet higher than the moor itself. Continuing our panorama, we encounter the Pico Grande (5,390 feet), and lastly the Pico Cidrao (5,500 feet), after which come the Torres again.

The Curral is only partly visible.

To Bocca das Voltas.—Five hours both ways. A beautiful excursion to a point some 2,500 feet high, whence a descent can be made into the valley of Boa Ventura. The ridge crossed is that of the Torrinhas, which connects the Pico do Arco with the P. Canario and the summit commands a very fine view.

To the Pico Canario.—Four hours up. The road to this mountain lies past the Church of S. Jorge. The view from the summit (5,449 feet) is perhaps the finest to be obtained of the Grand Curral, but towards the S.E. it is not very extensive.

No. 4.—To THE N.N.W. *From Funchal past S. Antonio over the Serrado, along the E. side of the Gran Curral and across the Torrinhas (Turrets) Pass to Boa Ventura and Ponta Delgada*, with excursions from Boa Ventura, including the Coast Road to S. Vicente. For Coast Road to Santa Anna, see under Excursions from Santa Anna, Expedition 3.

Leaving Funchal the Church of S. Antonio is reached in $\frac{3}{4}$ hour, and at two hours a point on the Serrado, 3,365 feet high, whence a good view into the Curral Ravine; this being the most convenient spot for visitors to go to from Funchal, who have but little time to spare. The Curral is one of the grandest sights in the island.

A descent is now made to the Church of N. S. do Livramento (three hours; 11 m. = $17\frac{1}{2}$ kil.), after which the climbing recommences. Good views are obtained, and the outline of the mountain-tops which represent a sleeping woman's head should be noticed. The following panorama is visible: Commencing at the Pico Ruivo (6,059 feet) we find the Pico Canario (5,449 feet) immediately on its left. Next the Pico da Trinka, then the Torrinhas (5,986 feet), then the Pico de Jorge, Pico da Empenha, Pico Grande (5,390 feet), Pico dos Bodes (3,725 feet), Pico Serrado, Pico de S. Antonio (5,706 feet), Pico do Sidrao (5,500 feet), Pico Arrieiro (5,895 feet),

Pico as Torres (6,000 feet) and again the Pico Ruivo. At five hours the summit of the pass (5,042 feet, 16 m. = $25\frac{1}{2}$ kil.), where the Curral is lost sight of, and the descent, *viâ* the narrow Ribeiro do Porco, commences.

From the top, as stated in Expedition 3, Excursion from Santa Anna, the Pico Ruivo can be ascended.

The path downwards leads through a succession of rugged rocks and gorgeous vegetation, possibly, if clouds have gathered, half hidden by a rainbow or standing at other times clear and sharp against the sky, until the ravine widens, and at eight hours the little inn of Boa Ventura is entered immediately above the church ($26\frac{1}{4}$ m. = 42 kil.)

Boa Ventura is a scattered little hamlet and the inn, which is some 1,400 feet above the sea, is beautifully situated and commands extensive views. Fair accommodation, five beds, 2,000 reis a day.

EXCURSIONS.—*The Arco de S. Jorge to the E.* can be ascended in a little over an hour and commands good views.

The Pico de Moranha on the W. can be ascended in about $\frac{3}{4}$ hr., and from here the Torrinhos Peaks, etc., are visible.

To the W.—*The coast road to S. Vicente.* Descend sharply from the hotel, and in ten minutes cross the little bridge on the left, from which times are reckoned for the convenience of those going through from Santa Anna to S. Vicente.

The track passes round the cliff at a giddy height above the sea, which is seen beating immediately beneath, whilst the W. portion of the N. coast first comes into view. In the extreme distance is P^o Moniz with its island in front, and nearer in Seizal; S. Vicente, not yet visible, round a bend and *Ponta Delgada* just below. This pretty village is presently passed through, half an hour (no inn, but a private house is sometimes let; enquire at Funchal). After this the road, which is rough and wet, alternately leads round cliffs, or descends to the beach. At $1\frac{1}{2}$ hours Porto S. Vicente, a wine-shop with two or three houses around it, then a sudden turn to the left, where the path leads through a couple of tunnels, and across a large stone bridge into S. Vicente proper (two hours; $8\frac{1}{2}$ m. = $13\frac{1}{2}$ kils.). For description, etc. of S. Vicente see Expedition No. 5. The hotel is half an hour above the town.

No. 5.—TO THE N.W. *From Funchal past Jardim da Serra, up the west side of the Gran Curral, across the Serra d'Agoa and the Encumiada to S. Vicente, with excursions from the last-named place to the Pico Ruivo do Paul, etc., along the coast road to Porto Moniz, etc. For the coast road to Boa Ventura see paragraph just above.*

Take the bridle road past S. Martinho Church, $\frac{3}{4}$ hr., cross the R. dos Socorridos by the upper bridge and bear to the right past the Estreito Church (2 hrs., 1,617 ft.), ascend through the chestnut woods past the Jardim da Serra (2,532 ft., $9\frac{1}{4}$ m. = 15 kil.), to the Cova da Cevada ($3\frac{1}{2}$ hrs., 4,300 ft.) with beautiful view of the Curral. At $3\frac{3}{4}$ hrs. the thin ridge which separates the Curral from the Serra d'Agoa is crossed

and the latter is first seen. At $4\frac{1}{4}$ hrs. the summit of the comb, *Bocca dos Corregos* (4,420 ft.), is gained.

From here the prospect on either side is magnificent and the eye wanders from crag to precipice and mountain to hollow in bewildered ecstasy. This is also the best point from which to ascend the Pico Grande (5,390 feet).

By those wishing to explore the Curral a descent can be made and a few nights spent in *Fajã Escura*, a small collection of cottages three-quarters of an hour down a steep path from the Bocca dos Corregos. The view from *Fajã Escura* itself is particularly fine, and the following is the panorama: prominently in front stands the Pico do Sidrão (5,500 feet), next on the left comes the Pico do Canario, 5,500 feet, the Pico da Trincka, the Torrinhas (5,986 feet), the Pico do Jorge, the Pico da Empenha, the Pico Grande, and finally the Pico do Meio.

Leaving the Bocca behind, the road winds across and around precipices amidst the remains of an ancient forest, descends and at $6\frac{1}{2}$ hours strikes the junction whence the left-hand road descends to *Ribeira Brava* (see Expedition No. 6), on the west side of the Serra d'Agoa in $2\frac{1}{4}$ hours. Following that to the right, the Encumiada is soon reached (3,338 feet, $21\frac{1}{2}$ m. = $34\frac{1}{2}$ kil.), where the best views are obtained by walking for a short distance along the footpath which leads to Paul da Serra on the W. The two glens almost seem to divide the island and the mountain scenery on both sides is extremely fine. Going down towards S. Vicente the giant heather disappears at $7\frac{1}{4}$ hours, at eight hours the village of *Rosario* is passed through, and at $8\frac{1}{2}$ hours (28 m. = 45 kil.) the hotel is reached (seven beds, 2,000 reis per day, pleasantly situated some six hundred feet above the sea). This is a most enjoyable place to stay at, and a capital centre for explorers.

São Vicente itself is on the sea level, and is a village with shops. As the hotel is half an hour from the town excursions will be timed from thence and not from the town itself. There are many pleasant walks along the bed of the stream in the immediate neighbourhood.

EXCURSIONS.—*To the W.* The coast road to *Seizal* and *Porto Moniz*. This path leads round the face of the cliff, across several beautiful glens and should only be followed on foot. *Seizal* is reached in two hours. The town stands on a small promontory of somewhat recent lava. There is no inn, but accommodation may be had.

(There are a few excursions from *Seizal* and paths lead upward (1) to the House of Refuge on the Paul (see Expedition 7) past the base of the Pico Ruivo do Paul in $3\frac{1}{2}$ hours, and (2) to the Pass over the *Fanal* from the House of Refuge to *Porto Moniz* (see Expedition 7), which is entered at a point known as the Cruzinhas in $2\frac{1}{2}$ hours. Both these paths are rough and steep.)

Leaving *Seizal* the track still winds above the sea. At $3\frac{1}{4}$ hours (from S. Vicente) *Ribeira da Janella* (no accommodation), where the *Fanal* route touches the coast, and at $3\frac{3}{4}$ hours *Porto Moniz*. No inn, but accommodation can be had.

(From *Moniz* the *Lagoa de Fanal* can be visited, an extinct crater in which water is found during a great part of the year. From *Moniz* to the S. of the island see Expedition 7.)

In the Valley.—Opposite the hotel and distant about three-quarters of an hour is the limestone quarry (*Mina da Cal*), the only one known in the island, and as such of great interest to geologists. There is also a lava tunnel to be seen. Lights are required. Besides these the waterfalls, with which the stream abounds, offer many nooks and corners as attractive to the photographer as to the artist.

To the House of Refuge at the Tanquinhas, with the ascent of the Pico Ruivo do Paul.—A long ascent of $2\frac{1}{2}$ hours leads to the spring at the *Tanquinhas*. Close by is the House (see Expedition 7).

The summit of the *Pico Ruivo do Paul* (5,336 feet), which can be surmounted on horseback, is reached from here in quarter hour. Eastward the view extends as far as the *Pico Ruivo de Santa Anna*, and includes nearly the whole of the Central Group. On the N. the cliffs and gullies, even the sea itself seem to lie at one's feet; to the W. are the grand *Ribeira da Janella* with the ridges which bound it and to the S. the deep solitude of the Paul or Marsh. (See Exp. 7 for description of the Paul or for prolongation of excursion to the *Rabaçal*.)

No. 6.—TO THE E. *From Funchal along the S. coast as far as Calheta.*

From Funchal to *Achada do Campanario*, $4\frac{1}{4}$ hours, see Ride D. Half an hour farther on is the village of *Ribeira Brava* (16 m. = $25\frac{1}{2}$ kil.) No inn.

From here a path leads up the W. side of the *Serra d'Agoa* to *S. Vicente* in five hours. See Exp. 5.

At $5\frac{3}{4}$ hours *Ponta do Sol* ($20\frac{1}{2}$ m. = 32 kil.), where there is some accommodation to be had and near which there is a richly-decorated little Church. Presently *Calheta* is sighted, *Magdalena* is left behind, and the road, which is very uninteresting, enters *Calheta* in $8\frac{1}{4}$ hours (30 m. = 48 kil.) There is no accommodation, but one or two persons can find sleeping room.

No. 7.—*From Calheta viâ the Rabaçal to the Tanquinhas House of Refuge on the Paul da Serra; over the Fanal to Porto Moniz and round the coast back to Calheta. From the Tanquinhas down to S. Vicente, see Expedition 5 (Excursions from S. Vicente).*

Leaving *Calheta* the slopes are ascended and a tunnel is passed through into the *R. da Janella*, two hours. From here to the two principal fountains ($9\frac{1}{4}$ m. = 15 kil.) is another half-hour, after which some time may be spent admiring the beautiful scene down the valley, the dripping fern-clothed rocks and the rainbows formed by the spray that hangs around the waterfalls, which may be advantageously viewed from various points.

Attractive as the natural loveliness of the spot may be, the visitor will also examine with interest the manner in which the water is caught and carried away for the benefit of the S.W. district. The higher *levada* was commenced in 1836 and finished in 1860, the men, who were suspended by ropes from 700

feet above, working under the dripping water. In spite of the danger, as the cutting is 300 feet from the base of the cliff, it is stated that only one life was lost. The lower *levada*, which was commenced in 1863 and opened in 1884, receives the water from the Fontes do Cedro, and the Vinte Cinco Fontes. Each *levada* has its own tunnel through to the S. The upper passes through the ridge at an altitude of 3,430 feet, the lower at 2,975 feet, and they are 1,400 and 2,575 feet long respectively.

Leaving the Rabaçal behind, cross the head of the R. da Janella and enter upon the *Paul*, literally "marsh," which is a large elevated moor, the only one to be found in the island. Here and there it is bare but generally there is an undergrowth of heather, etc. The silence of the Shades reigns over this desolate region which is often enveloped in mist, rendering a guide who knows the country well extremely necessary. At five hours the *House of Refuge* (4,840 feet) is reached and, unless the traveller descends to S. Vicente (Expedition 5), the night must be spent here. For the road to Seizal, three hours (also see Expedition 5).

Permission to enter the house must be obtained at the Obras Publicas in Funchal. At such an altitude the nights are cold and wraps, candles, food, wine, etc., must all be brought up.

Leaving the Tanquinhas behind, the ridge to the N.E. of the Janella valley is followed. At 6½ hours from Calheta the Cruzinhas road to Seizal (see Expedition 5) is passed, and the route continues through a wooded country known as the Fanal to *Ribeira da Janella*, 9½ hours, and *Pº Moniz*, ten hours. The scenery is splendid, and the valley is equal in its way to anything in Madeira.

From P. Moniz the road crosses the N.W. spur of the Island to the Church of *S. Magdalena* (1,709 feet, 10¾ hours), dips into the R. do Tristão, leaves the Achada da Cruz high up on the left and, after many an ascent and descent which are thought little of after those encountered elsewhere, arrives in 13½ hours at the Church of *Ponta do Pargo*, 1,510 feet. Accommodation may be obtained, but not for a large party.

A road down the cliff leads to the Port.

Continuing about midway between the cliffs and the mountains through pretty country, at 15½ hours the road to *Paul do Mar* branches off on the right.

The descent to the Port occupies a little over an hour. The Church of *Fajãa d'Ovelha* is passed and a zig-zag path soon leads to the coast, which is here particularly bold and beautiful.

The main road continues *viâ Prazeres* (1,750 feet, 16½ hours), where accommodation may be had, crosses a deep ravine and descends past the Church of N. S. da Graça to *Calheta*, eighteen hours. From Calheta to Funchal, see Expedition 6.

No. 8.—*From Porto Moniz over the hills to the S.W. of the R. da Fanella, to Paul do Mar, Prazeres or Calheta.*

Leaving P. Moniz, keep S. Magdalena well on the right, and bear along the W. side of the ridge. For *Paul do Mar*, $5\frac{1}{2}$ hours, descend shortly before arriving at the P. dos Bodes (4,271 feet); see Expedition 7. For *Prazeres*, $5\frac{1}{2}$ hours, descend about $\frac{3}{4}$ hour farther on, and for *Calheta*, seven hours, continue to keep for rather over $\frac{1}{2}$ hour along the heights. From Calheta to Funchal, see Expedition 6.

EXPEDITIONS BY BOAT.

BOAT I.—TO THE EAST. *Past Santa Cruz and Machico to the Fossil Bed.*

Time occupied, about two hours to Santa Cruz, $2\frac{3}{4}$ hours to Machico, and four hours to the Fossil Bed. The coast scenery is not particularly fine, but the men will row close in if desired, and the view up some of the valleys is very pleasing. For further information, see Expedition 1.

BOAT II.—TO THE WEST. *Past Ponta do Sol, Calheta and Paul do Mar, to Porto Pargo.*

Shortly after leaving Funchal remember to look out for the Cano da Folle, especially if the weather be rough. At $\frac{3}{4}$ hour *Camara de Lobos* is passed. The coast now becomes very bold and the gigantic *Cabo Girão* (1,920 feet) arrests the eye. Next in order is *Ribeira Brava*, which is decidedly seen to the greatest advantage from the water. At a little over two hours *Ponta do Sol*, where the first view is obtained of Calheta. The cliffs here are very lofty. At three hours *Magdalena (do Mar)*, and at four hours *Calheta*. (For the *Rabaçal*, see Expedition 7.) It may interest some to know that the magnificent headlands under which the boat pursues its way are the seaward boundary of the Sercial (wine) district. At five hours *Paul do Mar*, and at six hours *Porto Pargo*. For further information, see Expeditions 6, 7, and 8.

BOAT III.—TO PORTO SANTO. The journey will, of course, be made in the steam-tug, which carries the mails twice a month.

PORTO SANTO, lat $33^{\circ} 3'$, long. $16^{\circ} 20'$, 23 miles N.E. of Madeira. The highest point of the island is the Pico da Facho, 1,665 feet. The air is dry and affords, when desired, a pleasant change to that of Funchal. The accommodation is almost *nil* and unless a tent is taken it is advisable to

obtain introductions before going. It is said that dragon-trees were once plentiful, but now there is little verdure. Vines and corn are chiefly grown, a certain amount of wine being sent to Madeira. The peasants live in huts. The Villa, 1,850 inhabitants, a town on the south of the island, has suffered frequently from English and French privateers. Christopher Columbus lived here for some time previous to his residence in Funchal. Most of the lime used in Madeira is taken from quarries in this island.

BOAT IV.—THE DESERTAS. These islands may be visited by boat, or in the steam-tug which must be hired for the purpose. Tents, provisions, etc., must be taken. There are a good many rabbits and some wild goats but the shooting is private.

THE DESERTAS, eleven miles S.E. of Madeira, are three uninhabited islands, of which the largest, the Deserta Grande, is 1,610 feet high and $6\frac{1}{2}$ miles long by about one mile in width. The next in size is called Bugio, 1,350 feet and the smallest Ilheo Chão, 340 feet. There are a few pine trees and a number of goats and rabbits. The Sail Rock, noticed by every one arriving in Madeira from the north, is situated off the last-named island and is 160 feet high.

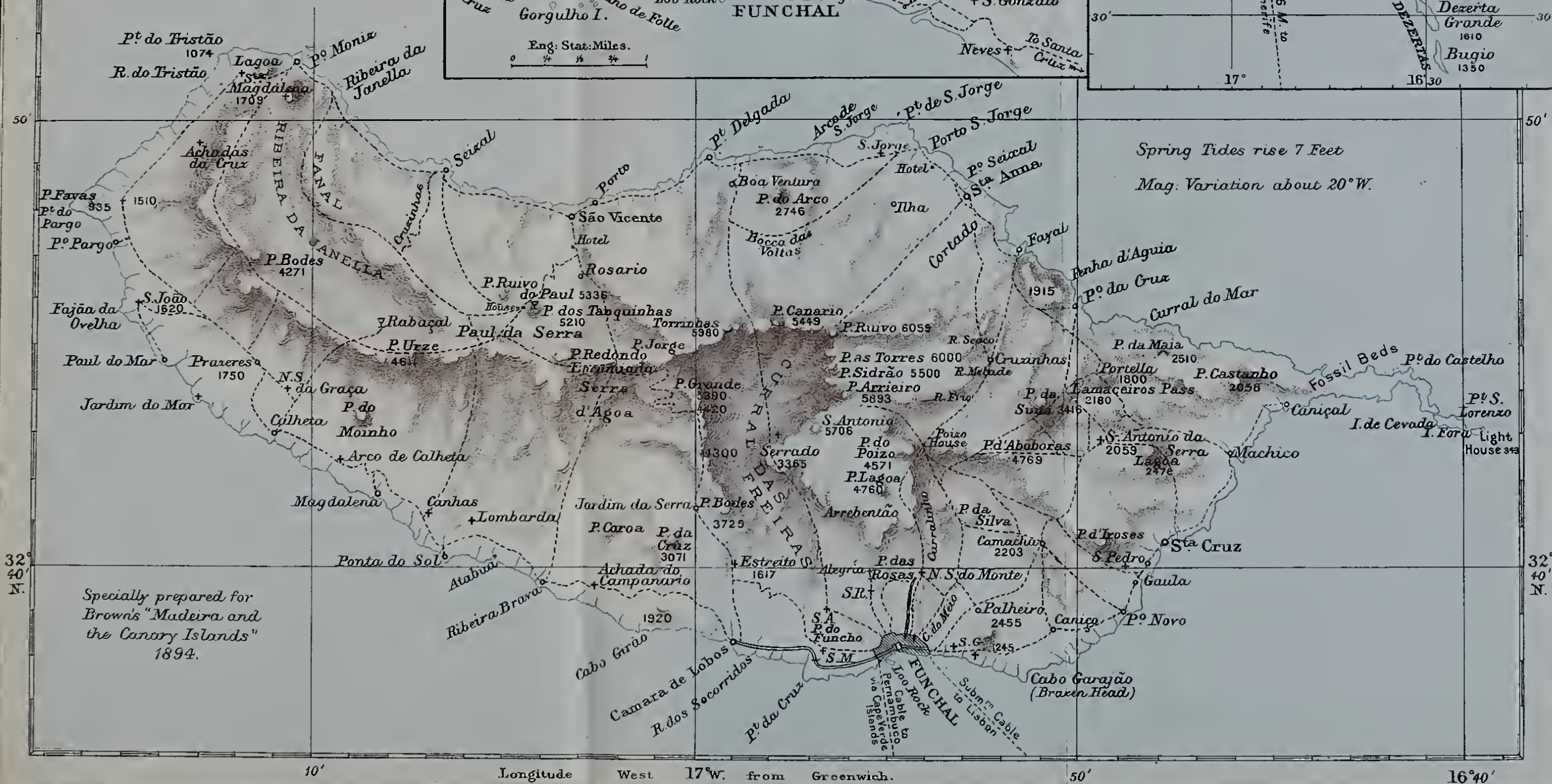
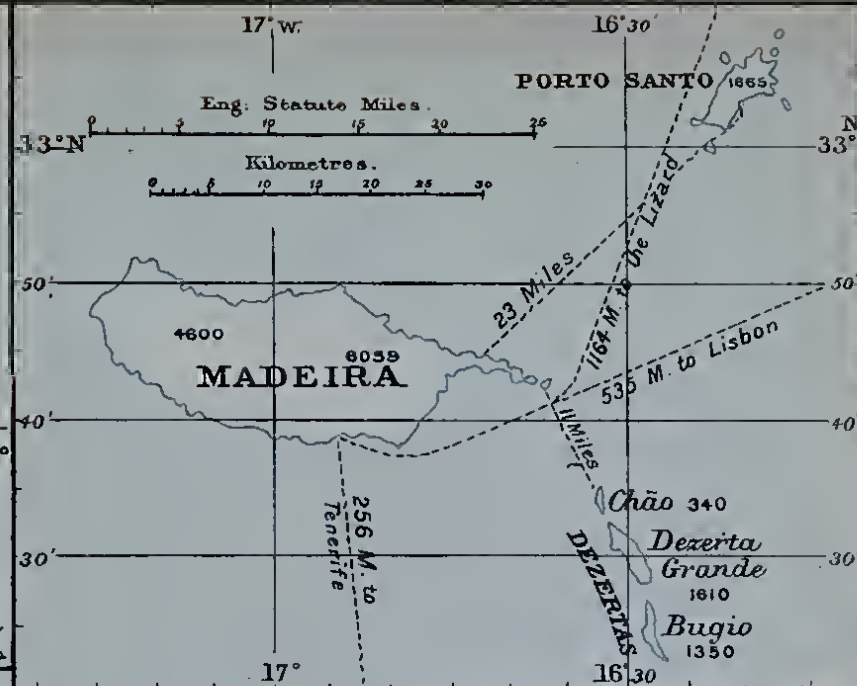
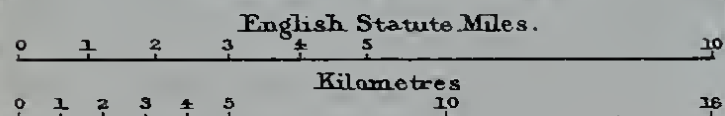
THE SALVAGES are a group of three small Islands, half way between Madeira and the Canaries, latitude 30° and longitude $15^{\circ} 54'$ W. The two larger are called the Great and Little Piton. They belong to Portugal, but are quite uncultivated, and of little value, being only visited in search of the Sheerwater, an aquatic bird, which abounds, and of a species of lichen called the Orchilla.

Prices of Horses, Carros, etc. These, of course, are only approximate, and it rests with every traveller to make his own terms. (Prices obtained with the exchange at 5,300 reis to £1.)

Horses.—400 reis an hour in and around Funchal and at the same rate for any part of any other hour. For the day 2\$000 to 3\$000, according to the places visited: for the week 8\$000 to 10\$000; for the month about 33\$000. Expeditions 2\$500 to 3\$000 the horse and 500 to 1,000 reis the man per day.

To Mount Church or Palheiro, 800 single, 1\$200 return. To S. Martinho; S. Antonio; or S. Roque and back, 1\$000. To Camara de Lobos; the Curralinho or Alegria, and back,

R. - *Ribeira* (*Ravine*). P. *Pico* (*Mountain*).
 P^o. - *Porto*. + - *Church*.
 P^t. - *Ponta* (*Point*) √ - *Spring*.
 ==, *Carriage Road*. -----, *Bridle Road*.
 — *Heights in English Feet.* —



*Specially prepared for
Brown's "Madeira and
the Canary Islands"
1894.*

Spring Tides rise 7 Feet

Mag: Variation about $20^{\circ}W$.

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1\$200—1\$500. To Camácha, 1\$200—1\$500 single, 1\$500—2\$000 return. To the Poizo, 1\$500—2\$000 single, 2\$000—2\$500 return. To the Grand Curral (East Side); the Pico Arrieiro; or Cabo Girão and back, 2\$500. To Santa Cruz, 2\$000—2\$500 single, 3\$000—3\$500 return. To Ribeiro Frio and back, 2\$500—3\$000. To Machico, 3\$000 single, 4\$000 return. To Santa Anna, 3\$500—4\$500 single, 5\$000—6\$000 return (2 days). To Jardim da Serra and back, 2\$500—3\$000.

Mules.—These are only used for carrying cargo on expeditions, and about 1,500 reis per day is a fair price, including the man, of course, as with the horses.

Hammocks.—400 reis per hour, etc., or about 2\$500 to 3\$000 per diem inside the town. For expeditions, from 2\$500 to 3,000 reis. Per month, 24 to 27 dollars, and more when on expeditions. On the N. side men can be found for less.

Carros (two oxen). Per hour in town 400 reis etc., and as with hammocks. To S. Martinho, S. Antonio, or S. Roque and back, 1\$500. Camara do Lobos and back, 4\$000. On the steeper journeys it is always better and cheaper to take basket cars than a carro with four oxen.

Basket Cars with one ox (up to three persons). Per hour 400 reis. To Mount Church, Caminho do Meio (Curralinho), Palheiro and Alegria (single) 1\$500. To Camara do Lobos and back, 3\$000. To Camacha 3\$000, return 4\$000. To the Grand Curral and back, 4\$500.

Carriages to Camara do Lobos and back 4\$000.

Running Sledges.—Down from the Mount Church, 400 reis each; from the Pico do Infante down the Caminho do Meio, about 450 reis. Sledges will hold two persons and may be engaged to meet parties returning from excursions to the mountains or from the N. of the island, who can thus save themselves a good deal of time and a long, tedious ride down the slippery roads. Arrangements must be made beforehand.

Boats.—With two rowers, about 500 reis an hour. With four rowers, about 800 reis. To the Fossil Bed on the E., about 3\$000 to 5\$000. To Calheta on the W., about the same, and for longer or shorter journeys in proportion, and according to the weather, or number of passengers.

Steamers.—Blandy Bros.' little steam-tugs run twice a week to Machico, and three times to Paul do Mar. The fares are 400 reis single and 600 return, and 500 single and 750 return respectively. Once a fortnight the mails are carried to Porto Santo, 1,200 reis single, 2,250 return. The steamer may be hired to go round the island for about £10. Further particu-

lars as to time and intermediate fares, etc., may be obtained at the agency on the beach. Passengers are landed free of charge by the ship's boat.

THE RAILWAY (*Caminho de Ferro do Monte*) starts from the Pombal which is some fifteen minutes from the beach and is reached by ascending the Rua da Princeza and turning to the right up the Rua das Dificuldades. *Fares.* Up to the Levada 80 reis ; down 40 reis.

THE AZORES.

ALTHOUGH neither geographically nor geologically a part of Madeira, these islands are most easily reached from Funchal or Lisbon; are Portuguese and Portuguese-speaking, and it is thought that a short description of them and of the accommodation to be found will be useful to those using this book.

Their reputation as a health resort during the winter or as a pleasure resort during the summer remains to be established, but there is a growing disposition on the part of tourists to Madeira to pay them a visit, and on the part of resident invalids in the same island to avail themselves of their neighbourhood during the hot months when a change is desired and it is not considered advisable to return to England or to Europe.

During the winter there is more rain than in Madeira and the temperature is lower. They are however a healthy place of residence; there are good roads in most of the islands and a number of attractive excursions to be made in a little-known country; there are peaks to be climbed, volcanic lakes to be visited; caves to be explored and cataracts of lava to be crossed. The moisture brought by the warm gulf stream is most favourable to the vegetation and many spots of most romantic sylvan beauty can be found, as well as a number of lovely gardens, surpassing in beauty even those to be found in Madeira.

The mineral springs, which are better known and appreciated in Portugal than in Europe generally, summon a number of invalids to drink and bathe in their waters.

The people are very industrious and have long held the market as exporters of pine-apples, etc. Spirit is largely made from yams and great quantities of beans are grown and exported to Lisbon.

At present most of the visitors come from America in sailing schooners which bring petroleum and flour and touch at Flores, Fayal, Terceira and St. Michaels, or by a line of steamers running between New York and the Mediterranean and touching at the Azores for fruit and general trade on the way, whilst the Royal Mail S.S. Co. will stop if sufficient inducement is offered. (Not less than about £40 passenger money.)

The accommodation is in its infancy and only suffices for a few people, but hotels would be built to meet a real demand. Charges 5s. to 8s. a day as a rule.

The distance from Madeira is about two days and from Lisbon about four days or about three days by direct boat.

There are nine islands divided into three groups.

GROUP I. consists of two islands.

ST. MICHAEL'S (*S. Miguel*), 41 miles (66 kil.) long by $9\frac{1}{4}$ miles (15 kil.) broad.

Ponta Delgada, the capital and port is situated in lat. $37^{\circ} 44'$ N. by long. $25^{\circ} 39'$ W. of Greenwich.

Brown's Hotel. Ten people. Among the chief sights are the lava streams and caves coming from Sete Cidades, up which it is possible to walk for miles. At Sete Cidades, which is worth a visit, there is a great crater with two lakes at the bottom, one of which appears to be green and the other blue.

Very good roads lead to Villa Franca, a pretty little place, and to As Fournas and Ribeira Grande where the springs are. There is an hotel at As Fournas for the bathers with accommodation for about ten people.

The shelter afforded by the long mole at Ponta Delgada has made it the principal port and coaling station in the whole of the Azores. The Lisbon boats stop twice a month. The highest point in the island is 3,569 feet.

STA. MARIA, 11 miles ($17\frac{1}{2}$ kils.) long by 5 miles (8 kils.) broad.

Villa do Porto, lat. $36^{\circ} 56'$ by long. $25^{\circ} 8'$ W., the chief town, is situated on the crest of a hill. There is little to be seen except a church where Columbus stopped to return thanks on his return from America. The appearance of the island is barren, everything is landed in boats and passengers rarely go on shore. The highest point in the island is 1,870 feet. Lisbon boats touch once a month but only remain two or three hours.

GROUP II. consists of five islands.

TERCEIRA, 19 miles (30 kils.) long by 9 miles ($14\frac{1}{2}$ kils) broad is very oval in shape compared with the rest of the group.

Angra, $38^{\circ} 38'$ N. by $27^{\circ} 16'$ W., where the boat stops is a pretty town, but there is practically no accommodation.

There is a good carriage road but the island is less interesting than St. Michael's. The highest point is 3,435 feet. It was 12 miles ($21\frac{1}{2}$ kils.) to the N.W. of this island where the submarine volcanic eruption of 1867 made its appearance. Lisbon boats once a month.

GRACIOSA, $8\frac{1}{2}$ miles ($13\frac{1}{2}$ kils.) long by 5 miles (8 kils.) broad.

S^{ta} Cruz, the port $39^{\circ} 6'$ N. by 28° W., is chiefly remarkable for the fact that it is the only port in the Azores situated

on the N. of the island and facing the open sea. Lisbon boats once a month.

São JORGE, 36 miles ($57\frac{1}{2}$ kils.) by $4\frac{1}{2}$ miles (7 kils.) broad.

Villa das Vellas, $38^{\circ} 41'$ N. by $28^{\circ} 14'$ W., is the port where the Lisbon boats call once a month. The island can easily be visited by schooner from Fayal.

Pico, 30 miles (48 kils.) long by 10 miles (16 kils.) broad.

S. Antonio the port, lat. $38^{\circ} 32'$ N. by long. $28^{\circ} 22'$ W., faces N. but is partially protected by the island of S. Jorge. Steamers do not touch here, but the island is easily visited by rowing boat from Fayal, from which it is only 4 miles (6 kils.) distant. The highest point is O Pico, 7,613 feet, which is also the highest mountain in the Azores.

FAYAL, 14 miles ($22\frac{1}{2}$ kils.) long by $9\frac{1}{2}$ miles (15 kils.) broad, ranks next in importance to St. Michael's.

Horta, the chief town and port, $38^{\circ} 33'$ N. by $28^{\circ} 38'$ W., is a pleasant little place where there is accommodation for a few visitors. The Lisbon steamers call twice a month and, as it is the terminus for the boat touching at Funchal, she usually remains one or two days. A certain amount of coaling business is carried on. The highest mountain is 3,350 feet. There are a few excursions about the island. O Pico, which looms grandly out of the sea to the westward, also induces most visitors to make a voyage across the narrow strait.

GROUP III. consists of two islands.

FLORES, 12 miles (19 kils.) long by 9 miles ($14\frac{1}{2}$ kils.) broad, is the most westerly of the Azores.

Santa Cruz, $38^{\circ} 28'$ N. by $31^{\circ} 8'$ W., is only visited by the Lisbon boats once a month. The highest point is 3,087 feet.

CORVO, twelve miles to the N. of Flores, is little more than a rock whose centre is a great crater. It is $4\frac{1}{2}$ miles ($7\frac{1}{2}$ kils.) long by 3 miles (5 kils.) broad, and is not often visited.

Those intending to visit the Azores will do well to provide themselves with Admiralty Charts before leaving home. The following are issued.

Azores (whole Archipelago on a small scale), 1/6; Corvo and Flores, 1/6; Terceira and Graciosa, 1/6; Fayal, Pico and S. Jorge, 1/6; St. Michael's, 1/6; Santa Maria, 1/6; Fayal Channel, 1/6.

LA PALMA.

THE island was formerly known as *Junonia Mayor* and the inhabitants at the time of the conquest called themselves *Haouarythes*. It contains 39,605 inhabitants in one city, one town and sixty-nine villages or hamlets; is divided into thirteen districts; is 29 miles ($46\frac{1}{2}$ kil.) long, $17\frac{1}{4}$ miles ($27\frac{1}{2}$ kil.) broad, 318 square miles (814 square kil.) in superficial area; is situated to the N.W. of Teneriffe and Gomera and to the N. of Hierro; is the farthest west of all the Canary Group with the exception of Hierro and lies between lat. $28^{\circ} 26'$ to $28^{\circ} 51'$ N. and long. $17^{\circ} 43'$ to 18° W. of Greenwich.

Commercially the third in importance of the Canary Archipelago, this island is by many considered the first in point of beauty, and probably the western slopes facing the Atlantic would, if provided with proper accommodation at different levels, be ultimately selected as the most advantageous to the general run of invalids, both as a summer and winter resort. The atmosphere is certainly no damper than that of the N. of Teneriffe and, whilst the wind lacks the dryness of that in Grand Canary, it seems more beneficial in cases of irritation of the throat. The high wooded mountains do not attract the clouds nearly so much as those of Madeira, and the air is pleasantly soft without being relaxing. If a hotel could be built high up among the pines, the wonderful scent of the native tree could not fail to exercise a very healing influence in cases of lung disease, for which this particular cure is adapted.

The general aspect of the island would lead those who had not thoroughly explored it to expect it to be watered by a number of small streams. This is unfortunately prevented by its size and formation and by the proximity of the watershed to the sea. The shape can be almost exactly imitated by cutting a pear in half lengthwise and laying it, flat side downwards, on a table. A large hole must be scooped out where the core would be to represent the Crater or Gran Caldera and a deep dyke dug from it to the sea from the west, the round end of the pear being the north and the stalk the south. Now tear out the stalk and the small hole left is the Crater of Fuencaliente.

The bottom of the Gran Caldera is less than 1,000 feet above the sea and the highest part of the surrounding walls is the Roque de los Muchachos, 7,768 feet, which overlooks the Crater from the north. The broadest part of the pear is only

17 $\frac{1}{4}$ miles, of which the Crater accounts for about $4\frac{1}{2}$, leaving only some 6 $\frac{1}{2}$ miles on each side to serve as a catchment for the water, that is to say a declivity with an average gradient of one in 3 $\frac{7}{8}$, from which the rain naturally soon runs off. In addition to this the deep ravines which drain it and the porous nature of a volcanic soil must be taken into account.

As a matter of fact by far the greater part of the island must rely upon rain water for drinking purposes, a matter which must be taken into consideration by those who think of camping out. The best place for this is the interior of the Crater where some good springs are carried by stone water-courses (atarjéas) to Los Llanos, Argual etc., the surplus water, when there is any, running away down the bed of the Barranco de las Angustias. There are also springs outside the Crater on the E. and N.E. which supply Santa Cruz, Los Sauces and San Andres, and there are a few dripping rocks here and there.

The great extent of forest collects a quantity of moisture which is always to be found in sandy places by kicking up the surface. A great deal of this filters through into the sea at short distances from the coast line and may be seen on a calm day meandering in all directions on the surface of the salt water, to which it rises by force of specific gravity and where it is carried about in numberless fantastic curves and eddies by the various currents, each oily thread probably representing a separate spring. This is a natural phenomenon common all over the world, but which can be observed in the Canaries under very favourable conditions, owing to the tremendous heights immediately overlooking the sea.

As might be expected there are also mineral springs, of which the most notable is El Charco Verde below Las Manchas. A famous mineral spring in the S., at Fuen-caliente, disappeared in 1646 in consequence of a volcanic eruption, and another called the Fuente Santa vanished in 1677 through a similar cause.

The highest mountains are those grouped round the Gran Caldera. The upper part of the inside of the circle is principally composed of precipices from two to three thousand feet in height, but the outside is simply a slope of which the upper half is by far the steepest part. This slope has been worn into a succession of water-courses, which make the coast roads most laborious and of which the depth often exceeds 1,000 feet. The sides as a rule are thickly clothed with heather, laurels or pines.

The Cordillera which connects the Caldera with the S. of the island is steep and narrow and runs down to the sea at a great angle. The western side is covered with rough lava for

many miles; in fact in the whole Canarian group there is no island where volcanic fury has been more extravagant or where its effects are more apparent.

The chief object of interest is the Gran Caldera, a cauldron so vast and of such colossal proportions, that it is often able to enjoy a weather of its own, without reference to what is taking place in the island of which it forms a part. The Haouarythes used to say that the Peak of Teneriffe, which they saw standing white and fair on the unknown horizon, was thrown from it during some unusually energetic outburst.

It is over four miles across, between 6,500 and 7,000 feet deep and circular in shape, except where broken by a great outlet towards Argual. It was the last part of the island to submit to the Spaniards and was vigorously defended by its Prince Tanaúsu. The sacred rock Idafe was situated near the centre.

After the Caldera, which is believed by some to be the remains of several craters whose individuality has been lost by denudation, the Time (a black precipice facing Argual) and the wide stretch of lava stretching S. of Las Manchas and terminating in the crater of Fuencaliente, are the most startling examples of plutonic force. No disturbances however have taken place since 1677. In 1585 the lava ran down into the sea and killed all the fish for three miles around the coast, the noise being so great that the people in Teneriffe are said to have been frightened by it.

There is a good carriage road ascending from Santa Cruz at a very low gradient and leading to a little beyond Mazo on the way to Fuencaliente.

The population is industrious and has retained the old Canary costume as it was once worn in some of the other islands. The Breña Baja dress and cap (*gorro*) are now quite unique. In Garafía the *gorro* is replaced by the *mantera*, a sort of sou'wester made of cloth woven in the district from the wool of the native black sheep. The cap is also turned up in front like that of Breña Baja, but fits closely to the head. The flap hanging down behind is lined with red flannel and, when not required to protect the shoulders, is brought forward by means of buttoning the two corners over the peak in front. A better headgear was never invented. The cap worn by the women has no flap and is most unbecoming. The apron is even more *de rigueur* on gala days in Garafía than it is in Breña Baja. It will be noted with interest that the people living in the north are of an entirely different stamp from those of the south, and are evidently descended from other ancestors. The little round

hats made from the pith of the palm tree, so common in the latter, are never seen in the former.

On the whole the island is prosperous. There are a number of large shops in the capital, which seem to do a good trade, though what the north of the island imports beyond soap and red flannel for lining their caps, it is difficult to say. It is the last of the Canaries to cultivate silk which, as well as flax, is spun and woven into cloth. Tinned fruits and almonds are largely exported.

A constant intercourse is kept up with Cuba to which a number of the inhabitants emigrate. Many of the schooners run as far as New York, and La Palma has thus become a depôt for most of the mineral oil consumed in the Canaries. In many particulars the island rather resembles Madeira than the remainder of the group to which it belongs, and in nothing more than in the dexterity of the people, who manufacture a number of pretty little articles which can be bought as mementos, such as brushes, baskets, miniature barrels and furniture, the above-mentioned hats, knives, lace-work, embroidery, etc.

Those who merely land at Santa Cruz should go to the Barranco del Rio on mules or on foot. This is a most beautiful excursion occupying from $1\frac{1}{2}$ to three hours. Description farther on. Those who do not care to ride or walk should drive to Mazo and back, visiting Buena Vista, the summit of the Crater (la Caldereta) overlooking the town. From the chapel, a few minutes to the left of the road, is a very fine view.

Those stopping in the island for three days, the time occupied by the inter-insular boats in visiting Gomera and Hierro, will naturally wish to see the Gran Caldera. This can be done by visiting the Pico del Cedro or the Roque de los Muchachos and a return be made the same day. The crater is thus seen from above. Those who wish to see it from the Cumbrecita should go to El Paso and sleep, visit the crater in the early morning and, if strong enough, return the same day. If the crater is to be entered it is best to go through El Paso to Los Llanos, spend the whole of the next day in the crater and return on the next. The interior is infinitely more picturesque as seen from within than as seen from above. The Cumbrecita is not so very high and is perhaps the least fatiguing way of seeing it, but the first view from the very high mountains is most disappointing.

As it is strongly urged that those visiting La Palma should stay ten and not three days, many will be able to do the above and several more excursions. After the Gran Caldera has been thoroughly done, a good walk or ride is from El Mazo to

the crater at Fuencaliente. A start may be made by driving to El Mazo; by walking to the same place round the beach and along the paths below the *carretera*, or by crossing the Cumbre Vieja from Los Llanos and dropping down into the Mazo road. The walk through Las Manchas and over the lava is not recommended.

Other excursions are from Santa Cruz to Garafía over the Roque de Los Muchachos and back through Los Llanos or round the N. of the island. The last route is of no great interest and the constant succession of ravines is most tiring. Travelling is more toilsome than in any other part of the Canaries. It is only in El Paso and Los Llanos that accommodation can be relied upon. Elsewhere a tent should be taken or not more than two should travel together. All the excursions given above are properly detailed later on.

SANTA CRUZ de la Palma, 6,695 inhabitants. East side of island. 103 miles (165 kil.) from Santa Cruz of Teneriffe.

Passengers landed in boats at the mole. Charges: One peseta each person; half a peseta each package; or hotel boat, one shilling each, including luggage.

Hotels.—"The Palma" (English management), charges 6s. to 8s. a day; Fonda Marina: Spanish, 3s.; English, 4s.

For advertisements see page 15.

Public Buildings.—*The Town Hall*, a fine building faced with arches, finished in 1563.—*The Circo de Marta*, a circular building in the centre of the town, used for cockfights and as a hospital during the temporary outbreak of yellow fever in November, 1888. Churches: *San Salvador*, facing the Town Hall, with a good tower and doorway. In the interior there is a handsome ceiling, a richly gilded pulpit, some fairly carved woodwork, and a praiseworthy picture above the high altar. *Santo Domingo*, with a picturesque tower and an old convent. *San Francisco*, with convent now used as barracks. *San Francisco Fabier*.—*Iglesia de la Luz*.—*San Sebastian*.—*Santa Catalina*.—*De la Encarnacion*, with good view towards the hills.—*La Virgen de las Nieves* ($\frac{3}{4}$ hour), above the town; interesting. Spanish Club.

There is also a small but very well arranged *Museum* a short distance above San Salvador Church. It is most carefully arranged and will be found of great interest, especially to those who desire information on the geology of the island.

Santa Cruz is a cheerful and most artistically built little town, situated in a valley facing the sea and immediately to

the north of a large extinct crater, of which the crest, known as Buena Vista, dominates and protects the town from the south. The position much resembles that of Funchal, Madeira, but egress from the town is much easier. The country around is very fertile and large quantities of water are obtained by means of covered-in aqueducts and iron pipes. Part of the principal street is called O'Daly, many Irish seeming to have emigrated here as well as to Teneriffe. There is generally a pleasant breeze from the N.E. There is one public garden, or Alameda, which is little used. Owing to the beautiful vegetation and barrancos in the neighbourhood there are numerous walks and excursions. The town is the first in the Canaries to be provided with the electric light.

The peasants in speaking of Santa Cruz always call it *la Ciudad*.

Walks.—Towards the Alameda a turning to the left, called the Molinos, leads into the *Barranco de la Madera*. Follow the left-hand side of the same until crossed by a wooden aqueduct, when cross and bear to the right. The bridle road is met with just below a Church, which is just above and slightly to the left ($\frac{3}{4}$ hour, 630 feet). The Church (sixteenth century) is prettily situated, and the interior worth visiting; good gallery. The *Virgen de las Nieves* (to whom it is dedicated) is an ancient and much-venerated image, which is carried in procession down to the town every fifth April, beginning at the decade, when Spaniards come from all parts of the world and the town is full. A ship made of stone, to be seen at the bottom of the barranco, is then rigged and general rejoicings take place for two months, when the image goes back. A return can be made along the paved road, bearing a little to the left, past the Iglesia de la Encarnacion, or a short cut from the same road down into the barranco to the back of the town, past the hospital. Either way about fifty minutes.

From above the church (*Virgen de las Nieves*) a path through a garden climbs the slope at the back and leads in half an hour to the entrance of the *Barranco del Rio*. Here the aqueduct can be followed up the gorge, as far as desired, through most beautiful rocks and precipices, clothed with innumerable plants and ferns, this being one of the most lovely places in the islands. Only persons with strong nerves must go, as the path is at times dangerous. The *Barranco del Rio* can also be explored by bearing up to the left by the wooden aqueduct and following the bed of the ravine. This is the way taken by mules and all danger is avoided, but the views looking down from the aqueduct are lost. If the Church is

included on the way up it is necessary to return again to the bottom of the barranco.

Those descending the *Bco. del Rio* by the aqueduct need not return to the Church on their way home, but may follow the continuation of the aqueduct round the mouth of the next barranco on the N. side. They can then pass through the finca of *Miraflores* and return past the *Iglesia de la Encarnacion*.

A path leads to the south, one hundred yards above the *Iglesia de las Nieves*, across several barrancos to the carriage road above *Buena Vista* (one hour), whence a return can be made by the old road to Santa Cruz in forty minutes, or by the carretera in one hour, or the walk may be prolonged to *San Pedro* ($1\frac{1}{2}$ hours from las Nieves) and a descent made by a rough bridle path down the *Bco. de Agua Censia*, on the S. side of the Caldereta, to the sea ($2\frac{1}{2}$ hours from Nieves), whence home *viâ* the *Playa* (beach) and round the bottom of the Caldereta, impassable at high tide, to Santa Cruz ($3\frac{1}{4}$ hours or four hours altogether). At Buena Vista there is a *venta* where wine and biscuits can be had.

Another walk is to leave Santa Cruz by the carretera or by the old paved road to *Buena Vista*, one hour. A turning to the left leads from the carretera to the *Iglesia de la Concepcion*, 970 feet, in about three or four minutes. The view from the Church, which is visible from below, is extremely fine. The carretera can then be followed to *San Pedro*, half an hour farther on, and a return be made round the *Playa* as before. Total time about $3\frac{1}{4}$ hours.

Towards the N. a road leads straight through the town along the shore to the *Bco. del Carmen* (twenty minutes) and so up the barranco past the little Church to *Miraflores* ($1\frac{3}{4}$ hrs.) and return as desired, in all $2\frac{3}{4}$ hrs. There are fêtes here in July.

Immediately behind the town the pretty *Bco. de los Dolores* may be ascended to the *Ermita de S. Vicente* in three-quarters of an hour. By bearing to the right a return can then be made by N.S. de las Nieves or, by bearing to the left, by Buena Vista, etc.

A somewhat longer walk is to the *Mña de Tagóje*, 3,150 feet, best reached by passing the *Iglesia de la Encarnacion*. The scenery becomes very beautiful towards the end of the walk, which takes at least three hours both ways. This route is recommended to be taken on the return from the Pico del Cedro on the R. de los Muchachos.

EXCURSIONS.

Round the N. of the Island to Los Llanos.—An interminable succession of deep barrancos may be avoided by taking a boat,

the best scenery being after passing los Gallegos. A landing can be made at S. Andrés, Barlovento and, in calm weather, at the Bco. del Poleo below Los Franceses (bargains must be made) *or* the direct rough mountain track, possible for mules, past the Roque de los Muchachos (*see* elsewhere) entails a climb but is much shorter and easier. Round the coast, unless on foot, the Camino Real in all its detours must be followed. A guide in most parts is indispensable.

Bridle road along the N. coast.—Follow the beach to the Bco. del Carmen, twenty minutes, and ascend and descend to Bco. Seco, one hour and twenty minutes (half an hour may be saved on foot by clambering under the cliff at low tide, very rough work). At two hours, the Cruz de Tenagua, 990 feet, venta. Soon the bed of the Bco. de Sta Lucía, $2\frac{1}{4}$ hours, after which, at three hours, the entrance to the village of Punta Llana.

Here the bridle path bears to the left, passes through the village and ascends past the chapel of S. Bartolomé, below rocky wooded views to los Sauces in about seven hours. (If the laborious footpath is taken, wild bare country is traversed, S. Andrés, 100 feet, six hours, fair church and altar is passed, and los Sauces reached in $6\frac{1}{2}$ hours.)

Los Sauces, 800 feet, is pleasantly situated and possesses a church and pretty Plaza. Water is here obtained from springs in a barranco about two hours above the town and the Roque de los Muchachos may be visited in about $4\frac{1}{2}$ hours up. There is no regular inn, but accommodation is provided.

The next place reached is Barlovento, 1,700 feet, church, beds possible, $1\frac{1}{2}$ hours (the lighthouse may be visited in about $1\frac{1}{2}$ hrs.) Next las Toscas de Barlovento, 1,530 feet, $1\frac{3}{4}$ hours, thickly planted with dragon trees, no beds, then the bed of the Bco. Gallegos with a long descent of 1,200 feet is crossed, and at $3\frac{1}{2}$ hours is the venta of los Gallegos, 900 feet, beds possible. After this the scenery improves, especially by the footpath.

Those following the bridle road must bear down to the right, the following being the *approximate* times :—Los Franceses, beds possible, $1\frac{1}{2}$ hours; Santo Domingo de Garafía, beds, $6\frac{1}{2}$ hours; Punta Gorda, beds, twelve hours; Tijarafe (Candelaria), beds, $15\frac{1}{2}$ hours. This road which is monotonously precipitous will probably be taken by very few.

The shorter footpath from los Gallegos to Tijarafe is as follows :—bearing to the left the gigantic and beautiful Bco. del Poleo is crossed. An ascent of 1,350 feet from the bed leads to the Cruz Preñada, 2,400 feet, $1\frac{1}{2}$ hours, where the Camino Real, coming up from los Franceses, is rejoined and followed through enchanting woods of heather, laurels, pines, etc. past the Cruz del Castillo, 3,130 feet, $2\frac{1}{4}$ hours, until at $3\frac{1}{4}$ hours the footpath again branches off to the left. At $3\frac{1}{2}$ hours, Machin, 3,850 feet, where rough shelter may be

obtained and whence the Roque de los Muchachos may be reached in about two hours, or a descent made to Santo Domingo in about the same time. At $4\frac{1}{4}$ hours the undergrowth ceases and water becomes scarcer than ever. At $5\frac{1}{4}$ hours, El Revolcadero, 3,650 feet, a few houses whence a path to Santo Domingo. At seven hours los Redondos (water), 4,200 feet, where a path leads down to Punta Gorda in about three hours or up to the Roque de los Muchachos in about the same time, many paths both down and up being in fact crossed on the way and only the principal ones mentioned. Passing through pines at $7\frac{3}{4}$ hours the top of the Lomo de la Castellana, 3,400 feet, whence a steep descent leads to *Tijarafe*, 2,000 feet, nine hours, the Camino Real being joined close to the village.

Candelaria de Tijarafe, beds, has a small church with a fair altarpiece A.D. 1588. Following the Camino Real the *Bco. Agujerado*, with curious natural basaltic archways is crossed and the Ermita del Buen Jesus passed at half an hour. At two hours, the edge of the precipice of the *Time*, 1,760 feet, a most remarkable volcanic eccentricity with an extensive view of the Caldera and the W. side of the island.

A long descent follows to the bed of the *Bco. de las Angustias*, $3\frac{1}{4}$ hours, 200 feet, the outlet from the Great Caldera. At the bottom there is a chapel, containing the famous image of N.S. de las Angustias, said to be the first before which high mass was held in Palma. The opposite slope is now climbed and at $3\frac{3}{4}$ hours *Argual*, 900 feet, followed at four hours by *Los Llanos*, 1,000 feet.

Over the N. of the island to Tijarafe etc. passing the summit of the Caldera at the Roque de los Muchachos.—A steep bridle road, where guides are necessary, leads up past *Miraflores*, 850 feet, $\frac{3}{4}$ hour, to the top of the Asomada Alta, 2,540 feet, $1\frac{3}{4}$ hours; el Llanito de la Barrera, ordinary resting place, 3,850 feet, $2\frac{1}{2}$ hours; the Fuente Nueva, water generally, $2\frac{3}{4}$ hours; the Llanos de Olen, 5,350 feet, $3\frac{1}{2}$ hours; and the *Roque de los Muchachos*, 7,768 feet, in about seven hours. The path leads a little inside of the Roque and descends to *Tijarafe*, *Garafia*, etc in about another four or five hours. All points on the N. of the island are accessible from here. There is a grand bird's eye view of the Caldera which is however far less picturesque from above than from below.

To the Pico del Cedro and back in one day, with bird's eye view of the Caldera.—Follow the path as given above as far as the Llanos de Olen, when bear to the left past the Pozos de la

Nieve, 6,330 feet, some pits where snow is stored for summer use, and on to the *Pico del Cedro*, 7,470 feet, so called because of the stump of a dead cedar tree close to the summit, $4\frac{3}{4}$ hours from the city. The view is rather better than that from the Muchachos.

The survey height given is 7,680 feet. The writer, using a new aneroid made it 7,280 ft., and Dr. Simony's careful measurements declare it 2,150 metres (7,465 ft.) A return, slightly farther, should be made by bearing a little to the N. past the *Mña de Tagóje*, 3,150 feet, where the views are very fine. Mules can be of assistance on this journey but a considerable part must be done on foot.

It must be understood that in islands so mountainous as the N. of Palma is, it is nearly always easier to ascend to the hills, or even to the extreme summit, and then drop down on to the point aimed at, than it is to try and travel along or near the coast. On the Camino Real between Garafía and Barlovento for instance there are scarcely a hundred yards of level ground throughout the whole distance, and it is much easier to climb some 5,000 feet or more at once and have done with it, than to pile up an enormous total by 500 or 1,000 feet at a time.

Although the expedition to the N. of Palma is not recommended, it is in some ways full of interest. The people are handsome and well made; the men lithe, active and tall, and there can be few places in the world where there is less dependence upon outside help for the ordinary necessities of life. How so much physical excellence is maintained by a people who must intermarry so much and who are so very abstemious by force of circumstances is a matter worthy of study. Rye is one of the chief articles of food, and the peasants seem to contemplate the alternative of being reduced at times to living on the roots of the bracken, as though such a contingency were by no means infrequent.

To the Gran Caldera and back viâ El Paso, two days, or Los Llanos, three days.—Follow the carretera or the old road past Buena Vista and go up the lane at the back of the wine shop, 1,000 feet. Soon heather, laurel and the chestnut make their appearance, the Barranco de los Mimbres is crossed, in which a small wine shop, the last till El Paso, is passed on the left. The road winds through the most enchanting woods until the laurel gradually disappears and the giant heather alone is left. Soon the top, or Cumbre Nueva (4,750 feet), is reached ($2\frac{3}{4}$ hours). From here is seen a most magnificent view embracing the whole country from the Montaña de Mirca to Mazo, with Santa Cruz sparkling at the foot of the plain and

Teneriffe and Gomera in the distance. To the S. is the Cumbre Vieja, from a mountain in which, the Volcan de Tacande, a stream of lava issued in 1585. The last flow of lava is upheld by another stream, overgrown with vegetation, which must have flowed down at some very remote epoch from the same crater. Beyond the black stream is Las Manchas and on the horizon is Hierro, whilst due W. are the group of villages above Tazacorte. Beyond them is the mountain range of Time, a black and forbidding precipice bounding the Barranco de las Angustias on the N.W. Beyond this Tijarafe and Garafia lie and, farther to the right, a break in the mountains, called the Cumbrecita, allows a view of the interior of the Gran Caldera. On the W. slopes pines soon commence and increase in size until the Pino de la Virgen is reached—a giant which measures rather over twenty-five feet round. A little shrine is placed at its foot and numerous offerings are to be seen. A money-box for the support of the shrine is placed in the trunk. The splendid avenue passed through belongs to the Government and no trees may be felled until dead, which is, however, the time when the wood is worth most. The road now becomes level (2,900 feet) and the Barranco de las Cuevas de los Llanos is entered with some old native caves up a small barranco to the right ($3\frac{3}{4}$ hours).

From here a path leads up to the *Cumbrecita* (3,800 feet) from whence there is a fine view of the crater. Two hours there and back. The watercourse which passes near the Cumbrecita can be followed for some little distance.

There is water a little lower down, the first good drink to be had.

Bearing to the left *El Paso*, $4\frac{3}{4}$ hours, 3,000 inhabitants, is reached.

Hotel (in connection with the "Palma Hotel" at Santa Cruz de la Palma) $\frac{1}{4}$ hr. below the village, 5s. to 7s. a day. Spanish Fonda 3s. to 4s. a day.

For advertisements see page 15.

El Paso is a pleasantly situated little village where those who can only devote two days to seeing the Gran Caldera will do well to stop. There is a silk-weaver in the village, which is a good centre for the purchase of knives, pipes, miniature drinking barrels and various articles in mulberry wood.

For track to Las Manchas and Fuencaliente reverse *Santa Cruz to Los Llanos via Mazo and Fuencaliente*.

(A return to Santa Cruz can be made over the arid summit of the *Cumbre Vieja* by a path which joins the Mazo carretera near the *Bco. Aduares*, $6\frac{3}{4}$ m. = $10\frac{1}{2}$ kil. from the city. This route is rather farther but not so steep as the Cumbre Nucva. The pretty *Bco. Aduares* with its springs (about one hr. above the road) forms in itself a pleasant excursion from Santa Cruz. In coming from Los Llanos Mazo might be used as a stage on the way to Fuencaliente).

Below the straggling little town turn sharp to the right, and cross the barranco near a stone aqueduct. The straight road leads to *Tazacorte* (1½ hours). From here to Los Llanos the traveller passes through a succession of gardens and orange groves, almond, quince, and other fruit trees, the beauty of which must be seen to be appreciated.

At 5½ hours, *Los Llanos*, 1,000 feet, 5,000 inhabitants, a pleasant little village where the night should be spent by those who are making the three days trip and intend to explore the interior of the Gran Caldera. There is a small inn with about five beds; charges 3s. and 4s. a day, where mules can be obtained if wanted.

Argual, 900 feet, is a small village twenty minutes farther down, where the Sotomayor family, who came over at the time of the Conquest and are large landed proprietors, have their family seat. The *Mña Redonda*, some ten minutes from the house, commands a good view and is a good hunting ground for visitors who wish to carry home mementos in the shape of small volcanic bombs. There is no inn.

Tazacorte is another village half an hour below Argual. No inn. The harbour where the Spaniards, under D. Alonso Fernandez de Lugo landed in 1490, is half an hour away from Tazacorte and at the mouth of the Bco. de las Angustias. A boat can be taken from here to the *Cueva de Candelaria*, a basalt cave in the cliff, both ends of which communicate with the sea. Time necessary about three hours.

The path to the Gran Caldera leaves Los Llanos a little below the Fonda and passes the cemetery on the way to Tijarafe *via* the Time.

The zig-zag path on the opposite side of the Bco. de las Angustias (¾ hour) can be seen ascending the black and precipitous slope of the Time, 1,760 feet, two hours. For the road and times round the N. of the island reverse the Excursions from Santa Cruz headed *Round the N. of the island to Los Llanos, etc.*

At 150 yards beyond the cemetery turn up the small Barranco de los Barros, the second on the right, follow the bed for some distance and, emerging to the left, cross the plains, keep along the S. edge of the Bco. de las Angustias, and descend sharply to the stream in its bed (670 feet, one hour).

From here the bottom of the Caldera (950 feet) can be reached by climbing and wading up the stream, and active mountaineers can emerge by the Cumbrecita. Ropes and guides should be taken for this and all the neighbouring mountains.

The mule track crosses the stream three times, then ascends on the left. At last the Caldera is entered at a point below the caves of the former Kings of Taguriente, now inaccessible. At four hours a point called *Tenero* is reached (3,650 feet), with fine views of crater, and here lunch may be had. Twenty minutes farther is the little farm of Taguriente, which

belongs, as does nearly the whole interior of the crater, to the Sotomayores, who generously allow the pine trees to remain as an ornament to the view. The return occupies rather less time than the ascent.

The interior of the great crater is in every way most interesting. The dimensions have been roughly given as from four to five miles across and the depth as from 6,500 to 7,000 feet. Whether the basin is the site of a single cauldron or of many is difficult to determine, but, even if the lava or gases emerged from different holes, there is no doubt that the cavity and its surrounding walls are the outcome of a concentrated force exerted a long time ago, when subterranean outbursts were much more stupendous than they have been during more recent epochs.

In the Museum at Santa Cruz are a number of geological specimens collected inside it, which include some of the older formations found in such districts as Seotland, in curious juxtaposition with recent plutonic rock. Amongst minerals copper ore and pure copper globules have been discovered.

The present depth is largely due to denudation. Apparently the precipice of the Time is a great fault which separates the sloping plain of Tijarafe from that of Los Llanos, of which at one time it seems to have been a continuation. The lava flowing from the Caldera was probably diverted by the Time along the present course of the Bco. de las Angustias and was subsequently undermined and carried away by water. As the bed of the stream became deeper the quantity of material taken from the crater would progressively augment and the precipitous walls would gradually increase in depth, as they have done since the days of the Haouarythes, whose eaves, now inaccessible, may be seen some distance above the mounds of detritus piled against the bases of the cliffs.

The gap to the S.W. must originally have been below the level of the Cumbre Vieja but need not have occupied so large a part of the circumference as it does at present.

As might be expected the ravines in the bottom of the crater are often very deep. Many of these are covered with great pine woods, which shed their needles in a thick slippery carpet and render passage amongst the rocks difficult or even dangerous. Although from above the trees seem far apart and look no larger than pins, they offer many delightful and shady spots to those below, and are of great service to those who bring a tent and camp out. As a camping ground in fact the Caldera is particularly well suited. It has never been thoroughly investigated and it is quite possible that payable copper ore might be found, though the Canaries generally do not offer a very promising field to the prospector. In pitching a tent it is as well to keep away from the bed of what may suddenly become a stream.

A return can be made from Los Llanos to la Ciudad *viâ* the *Cumbre Vieja*, see El Paso, or Fuencaliente can be reached *viâ las Manchas* by reversing the next route.

From Santa Cruz to Los Llanos viâ Mazo and Fuencaliente.—Two days. The *carretera* to Mazo, 10½ miles, 16½ kilos, forms a delightful drive. On foot or on mule the distance at the start may be shortened by following the old road. Ascending the hill behind the town the back of the Caldereta (Buena Vista) is passed in about one hour. The district of the *Brœña* is now entered and numerous tracks are crossed, those to the right leading up to the Cumbres,

those to the left to the villages on the coast. Presently the church of *S. Pedro*, $5\frac{3}{4}$ miles (9 kil.) a little beyond and below which the village of *S. José*. At $6\frac{3}{4}$ miles, $10\frac{1}{2}$ kil. the *Bco. Aduares* (mentioned under El Paso) after which several extinct volcanoes are passed, and at $10\frac{1}{2}$ miles, $16\frac{1}{2}$ kil. Mazo is entered, 1,400 feet, beds possible.

From here *Los Llanos* may be reached *via* the Cumbre Vieja in about $5\frac{1}{2}$ hours from la Ciudad, *see* El Paso.

A return to town can also be made on foot or mule by leaving the carretera just beyond the windmill and keeping along the old lower road amidst a labyrinth of walls and gardens. The church of *San José* is passed in $1\frac{1}{4}$ hours, a sharp descent is made for a time, the road turns to the left past some dragon trees and reaches the beach just beyond the fort, two hours, whence home *via* the *Playa*, round the rock, etc., $2\frac{3}{4}$ hours. The *Playa* is only passable at low tide.

The carretera ends at the *Mñ^a* de los Rios (Im., $1\frac{3}{4}$ kil. beyond Mazo). Times are now given as on foot from Mazo. At half an hour a path to the right leads to the Fuente del Roque de Niquihomo, about fifty minutes above. At three-quarters of an hour at a stone shrine, 1,900 feet, a path to the left leads to the famous cave of *Belmaco*, $1\frac{1}{4}$ hours below, residence of the famous Kings of Tedote, in which are two stones engraved with what may be writing, supposed to be of great antiquity and as yet undeciphered.

As stated in the history a *facsimile* of the characters have been examined at Paris and have been declared to have had no meaning. The larger stone is 132 inches long by 99 broad and the smaller 58 long by 41 broad.

There are several more caves in the neighbourhood, some with deposits of goat guano.

The country continues to be green and agreeable although there are no springs. At $1\frac{1}{2}$ hrs. *Tigalate*, 2,100 ft, the last *venta* before coming to Fuencaliente. At $2\frac{1}{2}$ hrs., 2,300 ft., the lava or *mal país* commences and the road is rough for a time. Soon a beautiful pine forest with grassy glades and occasional vineyards. At three hours the Pino de la Virgen with shrine where the road divides, that to the left leading down to *Las Caletas*. Keeping to the right the land becomes gradually more cultivated and vines increase. At $3\frac{1}{2}$ hours the path again divides. That to the right leads in five minutes to the church of *S. Antonio*, beautifully situated as in a gentleman's park, 2,150 feet. That to the left to *los Canarios* (beds) one of the four divisions (pagos) of *Fuencaliente*, the district in which the best wine of the island is said to be produced.

At a quarter of an hour below the church is the volcano of 1677 which buried the Fuente Santa, the position of which is still indicated by a piece of the old wall. The cindery sulphur-streaked cup of the volcano, which so far has scarcely given a foothold for vegetation, is very perfect and about 250 feet deep. The scenery in the neighbourhood is somewhat plutonic but the views from the summit, 1,900 feet, are extensive and reach to Mazo on the E. and Punta Gorda on the W. coasts. It is well worth visiting.

Leaving Fuencaliente the path ascends past the church and enters the forest. The highest point of the pass is 2,850 feet and the scenery good. At $1\frac{1}{4}$ hours a cross, 2,800 feet, fine view, marks the commencement of the descent. Lava streams covered with pines are now continuous. At two hours the forest is left behind a guide being necessary from Fuencaliente to this spot. The path now crosses a dreadful succession of naked grey lava streams which ran apparently with great fury, until at $3\frac{1}{4}$ hours the church of *Las Manchas*, 1,900 feet, below which is the *Charco Verde*, a medicinal spring (purgative) much visited by local invalids in the summer. The mineral water runs away below the rocks at low tide.

The water has been analysed by Dr. Adam of Liverpool, who states that it closely resembles that of Carlsbad and is of use in case of gout, rheumatism, diabetes and liver and kidney complaints.

Near here the country becomes better cultivated and more agreeable. The path divides, that to the left crossing the final stream of lava at $4\frac{3}{4}$ hours, and bearing up the barranco to *Los Llanos* in $5\frac{1}{4}$ hours. The right hand upper track leads to *El Paso* in a little less. The west of the island from Fuencaliente to Los Llanos is only worth visiting for scientific purposes.

Approximate prices of carriages in Santa Cruz. (Taken with rate of exchange at 28 pesetas = £1.)

Carriages.—(5 persons) to la Concepcion, Buena Vista, 10 pesetas; Mña de la Breña, $12\frac{1}{2}$ pes.; El Mazo, 15 pes.

Mules.—For short rides, 3 pes. 75c.; per day, for some days, 5 to 6 pes.; to El Paso, 6 pes. 25c.; to Los Llanos. $7\frac{1}{2}$ pes.; los Sauces, 10 pes.; Fuencaliente, 10 pes.

Los Llanos into the Caldera and back 5 to $7\frac{1}{2}$ pesetas.

The above prices include the keep of man and beast and are more than should be asked in country places outside Santa Cruz.

HIERRO.

THIS island is farther to the W. than any of the Canaries. The imaginary meridian line conceived by Ptolemy about A.D. 150 would have intersected it at Punta Dehesa. Reckoning from Greenwich it lies between long. $18^{\circ} 10'$ to $17^{\circ} 53'$ W. and lat. $27^{\circ} 37'$ to $27^{\circ} 51'$ N., *i.e.* S. by W. of La Palma and S.W. of Gomera and Teneriffe.

Its ancient name was Ombrios and the natives called themselves Ben-Bachir, corrupted to Bimbachos by the Spaniards. It is $18\frac{1}{4}$ m. ($29\frac{1}{4}$ kils.) long by 13 m. ($20\frac{3}{4}$ kils.) broad, and its superficial area is 122 sq. m. (312 sq. kils.) There are 5,897 inhabitants contained in one town and eleven hamlets, the whole island constituting one district.

The coast is so steep and uninviting that, before the present service of inter-insular steamers, it was almost impossible for visitors to land, all the anchorages being mere open roadsteads. The cliffs rise so suddenly from the sea that there is no room for houses on the coast and consequently no seaport town to find the means of building a mole.

The interior is a sort of table land along which most of the paths are conducted. The mountains, of which the Alto del Malpaso (4,990 feet) is the highest, are only partially wooded, and there is far less sylvan scenery than is to be found in the other islands of the western group, although in some places, and more particularly in the neighbourhood of El Golfo, there are a fair number of trees.

There are practically no springs and the people depend for water on the rain which is preserved in tanks. The air which passes however is sufficiently laden with moisture and, were the question properly studied and plantations made in judicious positions, it is probable that this might be remedied.

On the arrival of the Spaniards there appears to have been a tree near Valverde called *El Garoe* which, according to legend, distilled enough water from its leaves to supply all the people with what they required. Although the Bimbachos were friendly, they covered this tree with dried grass so that the Spaniards should know nothing about it, and, thinking the island barren and dry, should sail away and leave them in peace. However a Bimbacho young lady fell in love with a caballero and revealed the secret. This led to a quarrel and the result was that a number of Bimbachos were carried away as slaves. On the departure of her lover the young woman was condemned to death, the only instance of capital punishment in Hierro of which there is any record. If the above

tale be true the tree could not have been very large. It has now disappeared but, if the exact site could be ascertained and a few laurels or pines planted, it is not unlikely that the new trees would distil water in the same way that the other did. Fr. Juan de Abreu Galindo gives a most circumstantial account of it, but his ignorance of natural laws led him to look upon the tree as being something quite special or even as a miraculous favour granted to the people because of their form of worship, which, as remarked in the history, bore some external resemblance to that of the Roman Catholic Church.

The products of the island are the same as those to be seen in the others, but all parts are not cultivable and the land can only support a limited number. The chief export is figs, which are of delicious flavour and which are planted, as in Fuerteventura, in the bottoms of the barrancos and in the crevices of sheltering rocks.

There is a very famous mineral spring at Sabinosa which is said to be most useful in cases of skin and other malignant diseases. It resembles that of the Charco Verde in La Palma in that it is close to the sea and that it rises and falls with the tide. This does not necessarily imply that the rise is due to the infiltration of sea water, as the barrier presented by high water outside would tend to prevent the escape of that yielded by the spring.

The customs of the inhabitants call for no special remark. Occasionally a parti-coloured cricket cap is worn, otherwise they dress as elsewhere. Before the discovery of America this island was regarded as the end of the world and from Punta Dehesa, in the W., the longitude of most countries was reckoned. Louis XIII of France even passed a law to this effect in 1634 and Cardinal Richelieu called a conference on the subject in the same year.

War being unknown in the island before the arrival of Europeans, the inhabitants were an easy prey to the freebooters and in a few years were nearly all killed or carried away.

They seem to have been a happy careless folk fond of dancing and ignorant of agriculture. Some method was probably adopted for keeping the population within limits so that the island might support those imprisoned in it. The cave of the pig mentioned in the history under "Forms of Prayer" was situated by the rocks now known as los Santillos de los Antiguos de Bentayga.

VALVERDE.—From the landing-place, which is a tiny cove protected by some masses of fallen rock, a steep pathway leads in two hours on foot, or one and a quarter on mule, to the little capital of Valverde (1,750 feet). 2,200 inhabitants.

Meals at the priest's, and some ten beds might be had in the village; one dollar a day. Feeding fair. Mules up 2s., or a dollar both ways. Those on foot should follow the bridle track all the way, as the short cut to the left which may be pointed out is most laborious, saves very little in the distance, and does not lead across any pretty or interesting tract of country. The whole walk is in fact very dull and Valverde itself is not worth a visit for its own sake.

There are no roads, but the bridle paths along the elevated plateau, which averages about 2,000 feet in height, are fair and present few difficulties. It is possible to see the best part of the island in from two to three days, but accommodation is difficult to obtain and a tent should be taken by those spending any length of time.

To the south a path leads upwards past Tinor and across a plain to San Andres (two hours), near which is a spring, the Fuente de Asofa. At 3,500 feet heather commences, and shortly after thin pine woods. A precipice here overlooking Las Playas commands a fine sea view. At five hours the village of El Pinar (2,600 feet), with view of the Puerto de Naos, is reached. The descent to the port takes about $1\frac{1}{2}$ hours.

To the S.W. of the village of El Pinar and about two miles from the coast is a place called *los Letreros*, so named because of some characters engraved on the rocks, of which was a copy forwarded to Paris at the same time as the copy of the characters scratched on the stones found in the cave of Belmaco in La Palma. The marks, which are effaced by time, were declared to be merely idle scratches. They are near what was apparently at one time a *tagoror* or ancient place of assembly and are very difficult to find. The site is reached by passing the Pinos de Julian.

Proceeding westwards from El Pinar the path again ascends and leads through gradually thickening forests, past *Los Reyes*, to the summit of the *Alto del Malpaso* (4,990 feet), whence there is a fine view of El Golfo. Cinders and lava here take the place of the trees for a short time, but descending the W. side to *El Golfo* giant heather and laurel are found growing luxuriantly here and there, interspersed with patches of Monte Verde. At 9 hrs. *Sabinosa* is entered, or from the Alto del Malpaso a path leads *via* the Ermita de los Reyes to the *Puerto de los Reyes* on the extreme W. of the island in $3\frac{1}{2}$ hrs. A return may be made from here to *Sabinosa* in about 2 hrs. Twenty minutes below the village is the mineral spring previously mentioned.

The return road follows the lower part of *El Golfo*, a huge crescent facing N.W., partially wooded and fairly fertile. At 2 hrs., *Los Llanillos* is passed, and at 3 hrs. *Tigadaye* (750 ft.). *Belgara* is left on the right, unless the pass up the cliff to Valverde *via* Tinor is taken ($4\frac{1}{2}$ hrs. from Tigadaye).

The coast road passes *Los Palos* and *Güimar*, and ascends the cliffs on the N.W. corner of El Golfo by an extremely steep and rather narrow path. The *Virgen de la Peña* (2,200 ft.), on the summit, is passed at $5\frac{1}{4}$ hrs. The path now leads along the plateau, past *S. Pedro* and *Mocanal*, and descends to *Valverde* in $7\frac{1}{2}$ hrs. through fair but not very interesting scenery.

A shorter excursion is from Valverde to *Alto del Malpaso* direct. About 6 hrs. must be allowed for this each way.

Possibly the visitor may be fortunate enough to see the fabulous island of Antilla or San Borondon, which historians report to have appeared at intervals in the W., and on which a landing is even stated to have been effected. So strong was the belief in it that Portugal, in the treaty of 1519, ceded it to Spain, calling it the "Isla non trubada," or "Island not found." Viera y Clavijo publishes a picture of it in his history (1772), drawn by a Franciscan monk in Gomera in 1759, and it is from his book that the above is extracted. It is on this island that the Spanish and Portuguese Christians, who escaped from the Saracens, are believed to have taken refuge, and legend states that some day God will allow it to be rediscovered, when those who originally sailed away will be found alive and well.

The island is sometimes called Cipango and a fuller account of it will be found in the History of Madeira.

GOMERA.

GOMERA lies between lat. $28^{\circ} 1'$ to $28^{\circ} 13'$ N. and long. $17^{\circ} 5'$ to $17^{\circ} 22'$ W. of Greenwich; is S.E. of La Palma, N.E. of Hierro and W.S.W. of Teneriffe, from which it is divided by less than 20m. of sea.

It was formerly known as Junonia Menor and its inhabitants called themselves Ghomerythes.

It is $15\frac{3}{4}$ m. ($25\frac{1}{4}$ kils.) long by 13m. ($20\frac{3}{4}$ kils.) broad and covers 172 sq.m. (440 sq.kils.). The population is 14,140 spread over one town and 36 villages or hamlets, divided into six districts.

The shape of the island is almost circular and the coast generally is extremely precipitous, especially towards the west, villages being scattered here and there on the slopes, generally at a considerable height above the sea. The summit of the island undulates and the surface is mostly composed of a rich, fine earth. There is an abundance of verdure and every available space is cultivated. The highest point is 4,400ft. and the country in the Cumbres is often thickly covered with splendid woods, the heather growing to a height almost unknown in the other islands.

Accommodation is poor, which is unfortunate, as the climate is good and there is practically no dew at night time.

Water is plentiful, and the land is fertile, silk being cultivated, as well as cereals, cochineal and the ordinary crops seen in Grand Canary and Teneriffe. Dates ripen in the neighbourhood of San Sebastian and palm trees are found up to 3,000ft.

There are no carriage roads, communication being carried on by mules and horses and by means of bridle paths, which are very slippery in wet weather.

A custom of the former inhabitants still survives, namely, whistling, and not only can a peasant make himself heard at a distance of three or four miles, but a sufficiently rich language has been developed to enable conversation to be carried on. The peasants near the Montaña de Chipude are considered the best whistlers.

SAN SEBASTIAN, 2,861 inhabitants; E. coast; 42m. (67kil.) from Santa Cruz, Palma, and 39m. ($62\frac{1}{2}$ kil.) from Hierro.

A village situated at the mouth of a large green barranco. Passengers are landed in boats and carried on shore. Charges (nominally), one peseta each person; packages extra; inn, with nine beds, four pesetas a day. Quaint old church, with

painting of the repulse of the Dutch fleet from the harbour in 1599. The few walks round the town are of no interest. Horses are difficult to procure, and bargains should be made.

When Columbus started on his voyage for the discovery of the Indies in 1492 he took in water and provisions at San Sebastian and attended mass in the church. An old house is still pointed out as having been occupied by him during his stay.

The point to which excursions are generally directed is Valle-Hermoso. This can be reached in several ways, the most direct taking about 8 hrs.

Leaving San Sebastian the barranco is followed for some distance and a steep ascent leads in $3\frac{1}{2}$ hrs. to the little church de las Nieves. After this there is less climbing, but the paths are not good. At $4\frac{1}{4}$ hrs. thick woods are entered, and the track leads round the S.W. base of Alto Garajonay (4,400 ft.).

In fine weather the forest scenery in the Cumbres is unsurpassed in the Canaries and the Alto Garajonay, or the Montaña de Chipude, 3,947 ft. are well worth visiting. The latter is situated about an hour to the W. of the route to Valle-Hermoso. To thoroughly enjoy an excursion of this sort the visitor is advised to camp out during the fine weather towards the end of the summer and to take a gun. Partridges are more plentiful in Gomera than is the case elsewhere in the Archipelago.

The woods are now left behind for a time and at .5 hrs. the *Laguna Grande* is passed. Keeping to the right, a descent is made through other beautiful woods below which a spring (*La Fuente Santa*) is situated, near a chestnut tree (2,200 ft.), then along a ridge, through the little village of *Puestelagua*, down the *Barranco del Ingenio* and into the village of *Valle-Hermoso* (500 ft.) 8 hrs. Accommodation may be had here, (3s. a day), but is not to be relied on.

Below the village a road leads towards the sea and from here, if a boat can be procured, the peculiar basaltic rocks, known as Los Organos (the organ pipes), may be visited in about 2 hrs. An excursion can also be made to the summit of the Montaña de Chipude and back in 8 hrs. The peculiarly bold character given to the scenery by the alternate rock and soft earth so prevalent in the island, the one remaining harsh and erect where the other has gradually melted away, cannot fail to delight and surprise the tourist who sees them for the first time.

From Valle-Hermoso a return may be made in even less time than is necessary for the route given above, by means of a path which is impracticable for horses. Guides must be taken.

A more pleasant way is *via* Hermigua. The path ascends the Barranco de las Rosas, leaving the Roque del Valle, one of the upstanding rocks mentioned above, on the left, and ascends very steeply to a point called Buena Vista, subsequently passing *La Cruz Eterna*, a cross about 2,300 ft. above the sea, the road being good and well shaded. The *Roquillo Pass* is surmounted, and a deep descent made to *Agulo*, a well-cultivated district about 550 ft. above the sea, with a village and church.

LA PALMA.

B^{co} Barranco (Ravine). + Ermita.
P. Puerto. ∇ Fuente.
P^t Punta. Pinar. Pine Forest.
M. M^{ta}, Montaña. R. Roque.
— Carretera. — Camino.
Alturas en Pies Ingleses.

Specially prepared for
Brown's "Madeira and
the Canary Islands"
1894.

Eng. Stat. Miles.

0 1 2 3 4 5 10

Kilometres.

0 1 2 3 4 5 10 16

Puerto de S^{to} Domingo
de Garafia
P. de B^{co} Fernandez

S^{to} Domingo
3370

Las
Franceses

Gallegos

Las
Iscas

Barlovento

B^{co} Herradura

Puerto
S. Andres

Los Sauces

B^{co} Galga

B^{co} Nogal

P^t Ilana

P^t Gorda

Punta
Gorda

M. Pintados

3940

3650

3850

7690

R. Muchachos

La Galga

B^{co} Galga

B^{co} Nogal

P^t Ilana

B^{co} Garome

B^{co} Valeriano

B^{co} Condellaria

B^{co} Agujerado

4200

3500

2000

LA CALDERA

3850

2320

5500

P^t Cedro

P^t Ilana

1130

B^{co} Lucila

B^{co} Seco

N. S. de las Nieves

B^{co} Carmen

SANTA CRUZ

P^t Moro

El Paso

Argual

Los Llanos

1000

LA CALDERA

3850

2320

5500

P^t Cedro

P^t Ilana

1130

B^{co} Lucila

B^{co} Seco

N. S. de las Nieves

B^{co} Carmen

SANTA CRUZ

1783

M. Tagajo

3150

Miraflores

B^{co} del Rio

4750

Breña Alta

Cable a Tenerife

S. Pedro

S. Jose

Pt. Ganado

M. Gotera

Maxo

Cueva de Belnaco

Tigalate 2100 ft.

Volcan de S. Antonio

Las Caletas

1677

M^{ta} Viento

780 ft.

P^t Fuencaliente

Puerto Nuevo

Las Quemadas

2240

Volcan de S. Antonio

Las Caletas

1677

M^{ta} Viento

780 ft.

P^t Fuencaliente

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Puerto Nuevo

Las Quemadas

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Volcan de S. Antonio

Las Caletas

1677

M^{ta} Viento

780 ft.

P^t Fuencaliente

Puerto Nuevo

Las Quemadas

22

A little further on is *Hermigua* (5 hrs.). Accommodation may be had, but there is no inn.

From here a path ascends the mountains, which are crossed at an altitude of rather over 2,700 ft., and San Sebastian is reached in about $6\frac{1}{2}$ hrs. The scenery is very good, though not quite so fine as that around the Valle-Hermoso.

TENERIFFE.

THIS island is shaped like a shoulder of mutton of which the broad end faces S.W. and the thin end points N.E. The Peak lies in the centre of the broadest part.*

It lies between lat. 28° to $28^{\circ} 37'$ N. and long. $16^{\circ} 7'$ to $16^{\circ} 56'$ W. of Greenwich; is $52\frac{1}{4}$ m. ($83\frac{1}{2}$ kils.) long by $31\frac{1}{4}$ m. (50 kils.) broad; has an area of 919 sq. m. (2,352 sq. kils.) and contains 109,933 inhabitants, spread over 2 cities, 4 towns and 152 villages or hamlets, divided into 33 districts.

Leaving the above inhabitants to discuss the question of commercial and political supremacy with those of Grand Canary, Teneriffe, although geologically of more recent formation, is, by virtue of its height, the meteorological centre of this part of the world, and the term "Satellite," applied in a climatic sense, cannot be justly resented by the most enthusiastic advocate of Las Palmas *versus* Santa Cruz.

The celebrated Peak, whose majestic summit may well be said to support the sky, towers far above the layer of clouds which so often hangs around its buttresses, and thrusts its snow-clad cone far into the glittering sunlight to serve as a beacon and a guide to the wandering sailor. When the atmosphere is clear this can be seen from an enormous distance, though it is often invisible to ships when close to the land because of the clouds hanging round the island. Humboldt calculated that it was mathematically visible from the M \tilde{u} as Negras on the African coast and must have often been seen by the Mauritanians when in eruption. The writer has seen the last 3,000 ft. of the cone, outlined against the setting sun, from the deck of the ship off Morro Jable Point in the S. of Fuerteventura, 125 sea miles (230 kils.) away, long after all but the highest points of Grand Canary had sunk below the horizon, and has no doubt that it would be visible under the same circumstances from the hills in Lanzarote.

It is still active, but the more recent volcanic disturbances have found a vent much below the sulphurous little crater, 12,192 ft. above the sea, whence clouds of steam occasionally float away as evidence of its fiery origin. The island was formerly called Tehinerfe, Nivaria and "the Isla del Infierno," both the Guanche aborigines and early Spanish settlers evidently imagining some connection with the infernal regions. "E'cheyde" or "Teide," meaning Hell, was the name given by the former to the Peak. (See history under heading *Religion*, etc.)

The indigenous inhabitants have been rather fully discussed in the history and it is only necessary to add that the nine kings who succeeded Tinerfe the Great reigned in the following districts :—Taoro, Imobac, Güimar or las Lanzadas, Anaga, Abona, Tacoronte, Tegueste, Icod and Daute. Of these the King of Taoro (Orotava), Bencomo the Good, was the chief.

Returning to our shoulder of mutton it must be understood that the whole island is little more than a long mountain ridge with steeply sloping sides. Commencing with the narrow end at Anaga Point, where the ridge is sharpest, there is a depression and a broad saddle-back or rather plain at La Laguna, followed by a narrow and constantly rising *cordillera* running S.W. and breaking about Pedro Gil into two walls which form the boundaries of the Cañadas, the name given to the undulating floor of a crater 8 miles broad, paved with pumice-stone and streaked with lava, on which the Peak itself is built. The island then slopes away on the W. towards a large group of volcanoes and a more or less wooded tract of mountainous country, terminating in the cliffs of Teno Pt. and the fertile little plain of Buena Vista. Towards the S. there are more mountains and volcanoes, the valleys and barrancos here particularly being precipitous and deep. Some of the ancient maps adopted the Peak as a meridian point in preference to the W. of Hierro.

A great part of the island is able to obtain a never failing source of water from the huge basin of the Cañadas and the melting snows of the Peak. Little of this is allowed to go to waste, being conducted to the land by means of open channels often running along the tops of the walls. To the N.E. of La Laguna most of the land is uncultivated and the mountains are extraordinarily razor-backed, being mainly composed of lava on which the native *Euphorbia* grows freely. Laguna itself is the most fertile spot in the island, because of the abundant moisture, but, were a better system of forestry and a more comprehensive means of storing water adopted, a great deal of land might be reclaimed which is now practically worthless. This applies particularly to the S. of the island, but even on the N. there are most extensive tracts of country entirely dependent on rain.

There are mineral springs at Vilaflor.

Besides a few isolated forests there is a belt of pine trees stretching almost continuously from La Esperanza round the top of the slopes overlooking the S. of the island, past Guia and los Partidos to Agua García. The belt is very thin in some places and in others quite swept away, besides which, up till quite recently, the peasants have been allowed to take away the pine needles for manure. However in addition to

the pines there are laurels and heather, which must collect a great deal of water, but the slope is so steep and the barrancos so short, that nearly all of it runs into the sea at once. All climates are to be found and most plants can be cultivated, for which reason the Spanish Government has granted a small subsidy for the maintenance of a botanical garden near Orotava, originally intended as a sort of half-way house for the acclimatisation of tropical fruits, etc.

Agriculture has never recovered the widespread ruin consequent upon the discovery of aniline dyes, and the collapse of cochineal following on the disease which ruined the vineyards in 1852. Fruit-trees are generally badly selected and little cared for. The growth of the fruit trade is discussed in the commercial section.

The most picturesque buildings in the Canaries are to be found in Teneriffe and in Santa Cruz de la Palma. Wood was largely used in their construction and the balconies, windows, patios (courtyards) and galleries are often most attractive.

The most peculiar dress is that of the peasants near Laguna whose leggings, coloured waistcoats, black knickerbockers and linen saddle protectors look effective and manly. The saddle protector is a sort of white pair of drawers, worn over the breeches and slit on the outside. The *manta*, an English blanket doubled and gathered into a leather collar, is the common overcoat of the peasant as the *capa*, a circular piece of black cloth faced with some bright colour, is of the well-to-do Spaniard.

Amongst knick-knacks to be purchased the imitation flowers made of fishes' scales (*sama*) and drawn linen are the favorites. Cigars have been spoken of elsewhere and few people who have tried them return home without carrying back as many as they think they can smuggle through the customs.

The dragon-tree is a native of Teneriffe. The famous dragon of Orotava, estimated by Humboldt as being at least 6,000 years old, was thrown down in 1867. Specimens may be seen in many places, notably one at Icod, supposed to be some 3,000 years old.

The dragon-tree is a kind of asparagus of which the dead branches serve as a support for the tufts or crowns, the roots of which encircle and conceal the original stem which gradually rots away inside. Those roots which fail to grasp the stem, or rather to attach themselves to the bark of the stem, may be seen hanging withered in the upper tree. Owing to this peculiar method of growth the inside of the trunk is hollow. That of the old tree in the Villa was open and made a very spacious chamber. Dragon's blood is an article of commerce and was used as an ingredient by the Guanches for preserving their mummies, etc. (*see history*).

The first recorded ascent of the Peak was made by some members of the Royal Society of London at the instigation of King Charles II and the Duke of York for the purpose of weighing the air and taking other observations. The conduct of the Spanish Ambassador on the occasion became a European joke, his ignorance of science causing him to treat the deputation who called to ask his permission as a couple of madmen and then to hasten to the king and relate the matter with shouts of laughter.

There are several ports but all the mail steamers touch at Santa Cruz. A few steamers touch at Orotava, but even the inter-insular boats do not run there regularly, the recognised means of approach being to disembark at Santa Cruz and cross the island.

A good road leads from Santa Cruz past La Laguna, Orotava and San Juan de la Rambla to Garachico and will eventually be completed to Buena Vista. A branch leaves this on the way to Laguna and runs through Güimar to Escobonal. It is proposed to carry this round the island and connect it with the Orotava road *via* Santiago and Palmar. A road also leaves Santa Cruz for San Andres and is to go on to Taganana. Lastly there is a road from La Laguna to Tegueste and Tejina.

Much inconvenience can be avoided where there is no high road by using the boats engaged in the fruit trade if practicable.

There are so many excursions to be made in Teneriffe that it is difficult to place any one as first in order of merit.

Those who have but a short time will do best by hiring a carriage in Santa Cruz for two, three or four days. A carriage for two persons with one horse should cost about 12s. a day, two horses about 16s. A carriage for four with three horses should cost from 20s. to 24s. a day. General prices will be found farther on. Only a little luggage can be taken.

The best short drives for those who can only afford three or four hours, whilst the steamers are coaling, are to La Laguna, $3\frac{1}{2}$ hrs. return, or to San Andres, $2\frac{1}{2}$ hrs. return. The Laguna drive can be extended to Las Mercedes, 6 or 7 hrs. return.

A two days' drive is to Orotava and back the next day or, if this has already been done, to Güimar and back the next day.

A three days' drive is to Orotava and sleep: to Icod and back the next day and back to Santa Cruz on the third.

A five days' drive can be made by returning to La Laguna to sleep and on to Güimar the next day to sleep. It is possible to drive to Güimar and back in a day, either from Santa Cruz or La Laguna, but it is really too much for pleasure and for the horses.

The places which ought to be seen if possible *en route* are :

From La Laguna ; the forest of Las Mercedes as far as the Cruz de Taganana, a most lovely ride or walk.

From Tacoronte ; the woods of Agua García (or from La Laguna). Also most beautiful.

From Orotava ; the Peak (2 days), the Cañadas (1 day), the woods and rocks near Agua Manza. The valley itself can be seen in a day's drive whether the Villa, the Grand Hotel or the Puerto be taken as a centre. The carriage should be abandoned in Realejo Bajo and the two Realejos should be visited on foot, the carriage being rejoined on the carretera a little on the Orotava side of Realejo. The beautiful drive to San Juan de la Rambla can be extended to Icod if desired. The mule track to Icod *viâ* Icod-el-Alto is very beautiful and the footpath between the same places, which leaves Realejo Alto, climbs to the La Corona and, keeping on the 3,000 ft. level, descends through the pine forests to Icod, is one of the most lovely excursions imaginable. It is best taken from Icod home. The pass over Pedro Gil or by the Pilgrim's track to Güimar is magnificent.

From Icod de los Vinos : Garachico ; La Culata ; the Pine Forests ; Valle Santiago ; the Crater of Chahorra (desperately rough).

From Güimar : the Bco. Badajoz ; the Bco. del Rio ; the pass over Pedro Gil, etc., to Orotava.

The passes to Vilaflor, Adeje, etc., will all be found in their proper places as well as the detailed description of all the above excursions. The scenery below Vilaflor between Güimar and Adeje is not attractive.

Telegrams can be sent booking accommodation to any station between Santa Cruz and Garachico. No wire has yet been laid along the south coast.

SANTA CRUZ DE SANTIAGO.—Capital of the Canaries since 1821. 20,000 inhabitants. N.E. corner of Teneriffe ; 256 m. (409 kil) from Madeira, and 53 m. (85 kil.) from Las Palmas. Formerly called Añaza.

Passengers are landed in boats on the unfinished mole which is to be extensively lengthened. All ships are met by the hotel agents. Charges for boats (official), each passenger 1 peseta each way, unless more than five in boat, when 75 c. ; children under 12 half price. By night, each person 25 c. extra. Boxes, etc., 1 peseta, 75 c., or half a peseta, according to size. There are no customs duties on passengers' luggage but cases are sometimes opened at the *fielato* on the mole.

HOTELS.—Camacho's, central, established several years ; International, corner house facing the square and the mole ; both 8s. to 10s. a day. Benigno Ramos, facing the square, 4s. to 6s. a day ; Panasco, 4s.

SANATORIUM.—Salamanca. Above and behind town. Good situation and view. About 3 gns. a week.

NEWSPAPERS.—El Diario de Tenerife—El Liberal de Tenerife—El Memorandum.

For advertisements see pages G, 16 to 28, and 38.

PUBLIC BUILDINGS.—*The Town Hall* ; the *Civil and Military Hospitals* (invalids will find the Civil Hospital a most excellent institution in which a private room and medical attendance can be secured for about 6s. a day) ; the *Gobierno Civil*, of which the courtyard is the best example of its class in the islands ; *Barracks, Theatre, Market Place, Military Governor's Palace* on the Plaza Weyler at the top of the town ; there are several forts which are not open to the public without special permission ; the *Library and Museum* are located in the old convent of San Francisco ; *Plaza de Toros* (Bull-ring) at the top of the town.

Churches.—*De la Concepcion* (often called the Cathedral), is a building with a high square tower of no architectural merit. The interior contains some richly-gilded altar-pieces and some excellent carved wood-work in the unfinished Capilla de Carta. Nelson's flags (1797) are in a glazed case hung up in the central chapel, north side. *De San Francisco* has a good frontage and a handsome tower from which the marble Virgin and Child were unfortunately dislodged by a storm in 1892. The interior is worthy of a visit. *Del Pilar*, with a well-designed roof. *San Telmo*. Funds are being collected for the purpose of building an English church, but services at present are held in the British Consulate, Plaza de la Constitucion.

Clubs.—Spanish Club (*casino*) in the same building as the International Hotel. Monthly members admitted. *Lawn Tennis Club*, behind the Plaza del Principe.

Squares and Gardens.—*De la Constitucion*, paved with stone and the favorite promenade of an evening. The marble group at the bottom is supposed to represent the lost image of the Virgen de Candelaria (*see* Candelaria) supported by the four Guanche Kings first converted to Christianity. The old fort

at the lower end is that in which George Glas was imprisoned in 1776. *Alameda del Principe Alfonso* behind the Iglesia de San Francisco, a shady square planted with Indian laurels. The band plays in this square and in the Plaza de la Constitucion.

Alameda de Ravenet adjoining the mole; *El Muelle* (the mole), a pleasant resort at sundown after a hot day. *De Weyler* in the upper part of the town. Little used. It is to be hoped that the authorities will see their way to clear away the concrete blocks which encumber the commencement of the road to San Andres, and make the part facing the harbour a little more worthy of the town. More stringent regulations should also be adopted on the mole. Measures to increase the water supply, the deficiency in which hinders the growth of the town, are in contemplation and should have been undertaken long before this.

Santa Cruz is a picturesque and pleasing town, full of handsome balconies, cool shady patios and quaint nooks and corners. The "miradores," or "view-towers" placed on the roofs prevent any idea of uniformity, whilst the projecting eaves of inverted gutter-pipes and long wooden gargoyles help to lend shade, effect and depth to the sunny streets and lanes.

There is a gradual rise towards the back of the city where a pleasant avenue of pepper-trees and geraniums command a good view of the town, with the two Church towers conspicuous and Grand Canary dimly visible on the horizon. A soft breeze generally makes itself felt, and the air on the mole of an evening is most delicious even in the hottest part of the summer.

On the N. and N.W. lie the arid ridges of Anaga Promontory and on the W. and S. the land rises in a great slope towards Laguna and the mountains round the Peak, the latter being scarcely visible from the city. The best part of the town is in the centre and near the hotels, but little interest being attached to the outlying streets. The Spanish society is the most lively to be found in the islands and assembles in considerable force on Sundays and holidays to hear the band play. The public gardens are shady and the view of the harbour from the town animated and picturesque. Visitors wishing to gain an idea of the town and neighbourhood without much trouble are recommended to ascend the tower of the Concepcion Church. Mosquito curtains should be placed round the beds.

A large hotel with pleasure grounds attached in some breezy situation near the town is greatly wanted and would benefit everyone. Hitherto the construction of such a building has been prevented by the difficulties placed in the way of would-be purchasers of a suitable site.

Although less frequented than Las Palmas, Santa Cruz is an important coaling station.

Walks and Excursions from Santa Cruz.—The *Laguna* road is described later on.

The *water course* (*atarjéa*) which crosses the hills behind and above the town can be followed in either direction. It is reached by keeping up the road past *la Nymfa* (a large villa at the back of the town). By turning to the right and keeping on through a deep cutting the masonry affords a level and most charming walk, overlooking the Barranco de Ameida and eventually leading to the *Aguirre springs* in about 3 hrs. It is possible to reach *la Laguna* by bearing off to the left at the top in about 5 hrs. or *Taganana*, by bearing to the right in about 6 hrs, total.

The level carriage road leading to San Andres is a beautiful drive. At $2\frac{1}{2}$ m. (4 kils.) is the *Valle Bufadero*, the spot where the Spaniards first landed and which has more than once been used as a base of operations against the city. A fort is to be built here.

The hill on the city side of the barranco, 2,500 ft., 1 hr. from the road, commands a magnificent view of the Peak, etc., and is well worth climbing. The path ascends from the telegraph hut. Donkeys can get up.

The path leading up the valley divides at about twenty minutes from the road. To the left is a pretty walk by a stream. Crossing this at about 1 hr. up, an easy ascent leads to the summit of the ridge, 2,680 ft., in about $2\frac{1}{2}$ hrs. To the right a steeper but more direct path leads to the top in about $2\frac{1}{2}$ hrs. (After passing through about half-a-mile of laurels a narrow and insignificant track, which turns to the right through some rushes, is that which must be taken for the *Lighthouse*).

A slight ascent now leads to 3,300 ft. (whence a fine view of the Peak), and the path descends to the *Cruz de Taganana*, 2,800 ft., $2\frac{3}{4}$ hrs., see elsewhere. The path along the ridge connecting La Laguna with the Lighthouse is more fully given under excursions from La Laguna.

The above are the prettiest roads from Santa Cruz to Taganana and that on the left is more or less practicable for horses and donkeys. Times given from the road.

San Andres, 5 m. (8 kils.) is a dirty uninteresting fishing village where nothing beyond wine and biscuits can be procured. There is an old martello tower by the beach.

From San Andres a path leads up the valley to the central ridge, 2,680 ft., in $2\frac{1}{2}$ hrs. Owing to the small crystals into which the basalt in this ravine solidified, the scenery is tame. The descent to *Taganana* is much finer. Time $3\frac{1}{2}$ hrs. This is the route generally taken by those riding from Santa Cruz to *Taganana*. A track to the right half-way up joins the central path along the ridge and leads to the village of *Anaga*. No inn, no food. San Andres to Anaga about $3\frac{1}{2}$ hrs.

Beyond San Andres a path, best on foot, leads to *Igueste* in 1 hr. No inn. After this the coast must be left and the track up the barranco taken to the central path, 2 hrs., and *Anaga*, 2,000 ft., $2\frac{1}{2}$ hrs. (from *Igueste*). For the descent to the *Lighthouse* and *Taganana*, see excursions from La Laguna.

The scenery along the ridge is some of the finest in the archipelago and the Barrancos Bufadero, de *Igueste*, de *Chamorga* (between *Anaga* and the *Lighthouse*) are all beautiful. Many of the paths are bad and slippery after rain and a guide is advisable in the hills.

A précis of times on foot is:—Bufadero, $\frac{3}{4}$ hr.; San Andres, $1\frac{3}{4}$ hrs.; *Igueste*, $2\frac{3}{4}$ hrs.; *Anaga*, $5\frac{1}{4}$ hrs.; *Lighthouse*, $6\frac{1}{2}$ hrs.; *Taganana*, $9\frac{1}{2}$ hrs.; (*Anaga* to *Taganana* direct, 3 hrs.); up the *Vueltas* to the *Cruz de Taganana*, 11 hrs.; *Laguna*, $14\frac{1}{4}$ hrs. (or from the *Cruz de Taganana* *viá* the *Valle Bufadero* to *Santa Cruz*, 14 hrs.) total.

SOUTH OF THE ISLAND.

(For Public Coaches see Table.)

Santa Cruz to Valle Santiago, Icod de los Vinos, etc.—Follow the *Laguna* road to the second turning to the left (40 minutes driving). At 11 m. (17 kils.) the half-way house. Country dry and crops chiefly grain. The pine woods above are best reached from *Laguna*.

At $2\frac{3}{4}$ hrs. the village of *Barranco Hondo* is seen well up on the right, followed shortly after by the romantically situated village of *Igueste (de Candelaria)*. The broad valley of *Güimar* is now fully exposed. At 15 m. (24 kils.) a path leads down to *Candelaria* and the sea ($\frac{1}{2}$ hr.) Beds possible.

It is at *Candelaria* that the famous image of the Virgin and Child found in possession of the Guanches is said to have appeared in 1393 to two Guanche goatherds who suffered from trying to drive it away. Having convinced the Guanches of its sanctity it was held in great reverence. Sancho de Herrera stole it in 1464 and carried it to *Fuerteventura* but, plague breaking out, was forced to bring it back again. In 1826 it was lost in a flood which broke from the mountains and carried the image and part of the church into the sea. At the feast of the *Candelaria* (August 15) large numbers of pilgrims visit the village in which there are an old church and monastery. A few of the villagers are employed in making pottery.

A little farther on the main road crosses a stream of lava and at 18 m. (29 kils.) passes the carriage road leading up to just below *Arafo*, a large village some 2 miles above the carretera, 1,570 ft. above the sea, and situated on the so-called Pilgrims' Route between *Candelaria* and the neighbourhood of *Orotava*. There is no inn but beds may be had with difficulty.

Above *Arafo* a path leads in 35 minutes to the *Bco. Cambuesa* where a tunnel has been sunk for about 500 yds. but unsuccessfully. Keep to the right through grand precipitous rocks up the *Bco. Añavingo* to the tunnelling

works ($1\frac{1}{4}$ hrs.) where water has been struck. There are many other tunnels both in this neighbourhood and near Güimar, but this is the only one which has so far been successful.

From Arafo a pass leads over *Pedro Gil*, 6,800 ft., $3\frac{1}{4}$ hrs., to *Villa Orotava*, 6 hrs, joining the Güimar route just below the Volcan de Arafo, *see* Güimar.

Another pass known as the *Pilgrims' Route* leads over the Cumbres, 5,650 ft., to *Victoria* in about 6 hrs. It is not so beautiful as that over Pedro Gil but there is less climbing. A descent from the summit can be made to *Villa Orotava* *viâ* la Cuesta de Bacalao and Florida, or the carretera can be joined at *Sta. Ursula*, *Victoria*, *Matanza*, *etc.*, in about 6 hrs. There is a path along the saddle back to the N.E. leading to *Tacoronte*, *La Esperanza*, *La Laguna*, *etc.*, which is easy enough when fine but dangerous in foggy weather. Those losing their way in a fog should choose some well marked track and bear N. not S., because the barrancos to the S. absolutely prevent further progress.

Leaving the Arafo road behind a more recent stream of lava (A.D. 1705) is crossed, a remarkable example whose hollowness in parts admits of entrance. At $20\frac{1}{2}$ m. (33 kils.)

GÜIMAR, 985 ft., a scattered village of 4,000 inhabitants is reached.

HOTELS.—El Buen Retiro, a villa with pretty garden, 8s. to 10s. a day; small Spanish inn, 3s. a day. Indifferent.

For advertisements, see page 29.

From the hotel in Güimar, 1,200 ft., there is a very fine view of the valley and the course of the two lava streams emanating from the volcan de Arafo is easily traced.

EXCURSIONS.—To *Arafo*, 40 minutes on a mule. To the wild and precipitous *Bco. Badajoz* ($1\frac{1}{2}$ hrs.), inside which the Cueva del Cañizo of the Guanches is to be seen far up on the left. The original beams are plainly visible but access is now very difficult. This is a very fine walk. To the *Bco. del Rio* ($1\frac{1}{2}$ hrs.), a beautiful ravine from which the Güimar water is derived and in which there are several springs and fern clad rocks to be seen. Both these barrancos are mere chasms worn by water.

To *Villa Orotava*, *etc.*, *viâ* *Pedro Gil*.—A steep climb leads through the Monte Verde and to the junction with the path leading up from Arafo, $2\frac{1}{4}$ hrs., 4,950 ft. A wide expanse of black sand is crossed and the remarkable gorge known as the *Valle* is entered, one of the most stupendous efforts of eruptive force to be seen in the world. The gap appears to have been absolutely thrown into space. Attention is called to the direction of the strata exposed on each side as well as to the want of similarity between the two surfaces. The N. side of the gate is strangely intersected by a perfect net-work of dykes.

The interest does not diminish on the way up to the summit of *Pedro Gil*, 6,800 ft., $3\frac{1}{4}$ hrs., whence there is a good view of the Peak and Cañadas.

Turning to the left a descent amidst barren rocks leaves *Agua Manza*, 3,930 ft., $4\frac{3}{4}$ hrs., about a mile to the right and enters the *Villa* at the extreme top. Time to hotel 6 hrs., total.

Instead of descending into the valley of Orotava a path to the left leads from Pedro Gil into the Cañadas in about 2 hrs. and so on to Vilafior, *see* elsewhere. It is also possible to reach La Laguna, *etc.*, by turning to the right, *see* Pilgrims' Route.

To *Villa Orotava* *etc.*, *viâ* *Arafo* and the *Pilgrims' Route*.—To Arafo, 40 minutes. For further details *see* Arafo.

To Socorro, Mña Grande and Candelaria.—Leave the bottom of Güimar and so on past *Socorro*, where there is a deposit of the volcanic tufa from which drip-stone filters are made, up the *Mña Grande*, 1,000 ft., $1\frac{1}{4}$ hrs., easy of ascent. There is a small but very perfect crater at the top. The cave in which the Menceyes of Güimar formerly lived can be included at the same time. Afterwards by bearing to the left *Candelaria* can be reached in about $1\frac{3}{4}$ hrs.

Beyond Güimar the road crosses a wide *moraine* and ascends the *Ladera de Güimar*, a steep volcanic wall bounding the S. of the valley of which latter there is a very fine view at the bend ($2\frac{1}{2}$ m., 4 kils).

The country from here to Adeje is dreary and arid to a degree, a thin fringe of forest land above being a very inadequate reservoir for the dry tufa strata below. Botanists, etc., will find the vegetation of interest but the travelling is hard and the scenery nil. The few points of interest will be noticed in their proper places. The productions are a quantity of white wine, potatoes, tomatoes, grain and formerly cochineal. The easiest way to reach any given point is to go by boat to the respective port, generally 1 to 2 hrs. below the village, or come over the Cañadas.

At 28 m. ($4\frac{1}{2}$ kil.) 2 hrs. on foot from Güimar the carretera ends at the entrance to *Escobonal*, a further section, complete as far as Fasnía, awaiting junction (times will now be given as *on foot* from Güimar). Passing below *Escobonal* the deep *Barranco Herques*, 3 hrs, is crossed (water is generally to be found by digging a hole in the sand at the bottom). At $3\frac{1}{2}$ hrs., *Fasnía* (wine shop) after which the path descends through an absolute desert to the sandy beach, $4\frac{3}{4}$ hrs, where the bathing is excellent.

The desert is not without its interest and the gnarled and twisted plants of the *tabaiba dulce*, whose age can scarcely be less than that of some of the oldest dragon trees, are a conspicuous feature. The calcareous deposit accumulated on the surface of the various strata of the tufa and, without doubt, deposited in its present position whilst this part of the island was covered by the sea, cannot fail to attract attention. It is always impervious to moisture and in some places so hard that the traffic of centuries has failed to break through half an inch of it. Water will be seen oozing from above it in the roadside cuttings, and it must be an important factor in preventing the escape of water into the sea by means of subterranean filtration.

At $6\frac{1}{2}$ hrs., Arico, 1,188 ft. (beds, very dirty) and at $7\frac{1}{4}$ hrs. Lomo de Arico, 1,765 ft. (beds), a few houses with a church.

At $8\frac{1}{4}$ hrs. Rio, 1,419 ft. (venta) and at $10\frac{1}{4}$ hrs. the pretty village of

Granadilla, 2,026 ft. Fair inn with several beds, 3s. a day. The village is prettily situated on fertile soil where the best oranges in Teneriffe are grown. It has the advantage of being large enough to kill a beast occasionally and is the first decent place stopped at after leaving Güimar.

EXCURSIONS.—*To the Coast where the Cable Hut stands.*—A 2 hrs. walk leads to *Tejita* which is not at all a bad summer camping ground. The people living on the S. side do not go up the hills during the summer as is generally supposed, but down to the beach, where the eddy, caused by the deflection of

the trade wind over the top of the island, blows in cool from the sea. Higher up it is heated again by passing over the land. The fishing and bathing is also an inducement. There is a fresh-water spring near the beach.

To Vilaflor, Orotava and Icod — A climb of about 2 hrs., foot or mule, leads to *Vilaflor*, 4,335 ft., the highest village in the Canaries and destined, according to what some say, to become their chief summer resort. At present there is little accommodation and access is difficult. There is a large church in the village in which the marble statue of St. Peter is a good work. To the N.E. of the town are two mineral springs of which the water is said to be a good tonic. The name *Vilaflor* is modern and has replaced that of *Chasna*, by which it was formerly known.

A mountain called the *Sombrerito*, commanding a magnificent view of the Peak and *Cañadas*, can be reached in about $1\frac{1}{2}$ hrs. from *Vilaflor*. There are also many romantic walks along the mountain sides and through the pine woods.

For ascent to the *Cañadas*, etc., and routes to *Orotava* ($10\frac{1}{2}$ hrs.) or *Icod de los Vinos* (11 hrs.) see elsewhere. The distances to *Vilaflor* to such points as *Santiago* or *Santa Cruz* are also less by the *Cañadas* or *Cumbres* than they are by the lower road.

Bridle paths descend to *San Miguel* and *Arona*, as well as to *Granadilla*, in about 2 hrs.

Leaving *Granadilla* the land passed through becomes more productive.

San Miguel, 1,950 ft., $11\frac{1}{2}$ hrs., a substantially built village with an inn; 3s. a day. A quantity of square paving stones (*losas*) are produced here for export to Cuba and America and for use in the islands generally.

A path leads up to *Vilaflor* in about 2 hrs. and down to the coast in about $1\frac{1}{2}$ hrs.

Passing below *El Roque* and by the *Ermita de S. Lorenzo*, $12\frac{1}{4}$ hrs., the path crosses the fruitful volcanic valley *de los Hijaderos* and enters

Arona, 2,085 ft., $13\frac{1}{4}$ hrs. (beds).

Path up to *Vilaflor* about 2 hrs. Down to the Port about $1\frac{1}{2}$ hrs.

On leaving the village the *Roque del Conde* is left on the right and the path becomes very bad as far as *Adeje*.

Adeje, 990 ft., $15\frac{1}{4}$ hrs. Comfortable clean inn with five beds; 3s. a day. Distance from the sea 1 hr.

This village was formerly the residence of the Guanche King *Tinerfe* the Great. To-day nearly all the houses and the surrounding country belong to the family descended from the former Counts of *Gomera*, who were also at one time supreme lords of *Gomera* as well. They lived in the so-called *Casa Fuerte*, now used as a store-house. Visitors are allowed to enter and it is well worth seeing. There is a handsomely decorated oratory, a few pieces of cannon, weapons etc., and some of the utensils formerly used by the black slaves, who worked in the sugar factory, still remain in the rooms where they lived. The owners were possessed of rights of *horca y cuchillo*, i.e. summary judgment and execution. An old rule mentioned in their archives states that all strangers must be granted hospitality for three days, after which they were to be shown where the door lay.

The church, built by them, contains a good altar and some handsome old tapestry, badly cared for and quite thrown away on the villagers. Unfortu-

nately it is entailed. There are some curious old wall-paintings and some very old images, one of which, N.S. de la Candelaria, dates from the Conquest.

Excursions.—To *Vilaflor viâ Arona*, about 4 hrs. This route can be followed to Santa Cruz or La Laguna.

To the *Boca de los Tauce*s (*Cañadas*) *viâ Tedesma*, about 3 hrs., a road which is rarely used.

Up the *Bco. Infierno* to the waterfalls, 1,848 ft., $1\frac{1}{4}$ hrs., a grand walk through one of the most stupendous and remarkable chasms in the island. The left hand waterfall at the top filters through a white deposit of which the solution deposits itself in the form of stalactites and as a horny pink or yellow covering on the stones. Enquiries did not result in showing that the water is injurious to those who drink it, though this may be the case.

Leaving Adeje, the Finca de las Hoyas, a large farm, is passed at $16\frac{3}{4}$ hrs. At 17 hrs. *Tijóco*, after which a wearisome succession of barrancos. At 18 hrs. the church of *Tejina* and at $19\frac{1}{4}$ hrs.

Guia, 2,188 ft., a large village with a church and an inn (3s. a day) about 2 hrs. above the sea.

From here a path leads to the *Cañadas* which are entered a little to the N. of the *Fuente del Cedro* in about $2\frac{1}{2}$ hrs.

Beyond *Guia* there are a number of lava streams to be crossed. At 20 hrs. *Chio*, 2,227 ft. is left a little to the right and a long ascent commences. The fringe of the pine forest is entered and the views of the western extremity of the island, with Gomera in the distance, become more and more imposing.

At *Arguayo*, 3,006 ft., 21 hrs., the Peak at last comes fairly into sight.

A path to the left, just below *Arguayo*, leads to the lower part of the Valle de Santiago whence *Masca*, *Carrisal*, *Palmar* and *Buenavista* can be reached.

Climbing to the base of the *Risco de Arguayo*, 3,729 ft., the mountain is encircled by a path commanding a wide and magnificent view. A rapid descent follows, the upper part of the valley is crossed and at 22 hrs. is the village of the

Valle de Santiago, 3,000 ft., 1,302 inhabitants. No inn but beds can be had. Lying as it does in a broad, windy gully the place offers few attractions and the lack of accommodation does not invite travellers to stay long. It is however the best centre from which to explore this part of the island.

Palmar lies two hours to the N.W. and the track over the pass, as well as that leading to *Masca* and *Carrisal*, command splendid views. For *Palmar*, *Icod de los Vinos*, $3\frac{3}{4}$ hrs. and neighbourhood refer elsewhere.

It is advisable to take guides in the hills but they are not wanted in the camino real.

N.W. ROAD FROM SANTA CRUZ TO ICODE DE LOS VINOS

(39½ m.=63 kil.). Public coaches (*see* table). Private carriages should start by 10 a.m. Lunch at Laguna or Matanza.

The road leaves the back of the town and winds up the slope through terraces planted with cereals and the cochineal plant.

On leaving the town the bull ring of Salamanca is seen on the right. By bearing to the right either just by or just above the *fielato* a pretty walk can be taken past a succession of water-dams and up the barranco as far as may be thought convenient. The country to the left of the carretera is not interesting.

A little farther on the old paved road, along which horse and foot passengers travel, leaves the carretera.

At 500 ft. and close to the carretera are some caves which may be entered and followed for some distance. Lights required.

Half-way to Laguna (40 min. driving) the Venta de la Cuesta is reached where the horses are generally rested. The main road to Güimar branches off here.

At 4½ m. (7 kil.) the church of Sta. Maria de Gracia is passed, the oldest in the island, founded by D. Alonso Fernandez de Lugo, the Conquistador.

Gradually the air becomes colder and the eye turns from Santa Cruz, glittering in the sun with its white houses in strong contrast to the deep blue sea and encounters the sombre towers of San Cristobal de la Laguna. The keen air and grass-topped walls show how greatly the climate differs from that of the coast and the invalid should be well provided with wraps. The district was once the bed of a lake or marsh and, although there is now no standing water, a great amount passes below the surface. The land is extremely rich, and free from stones, crops of all sorts growing most luxuriantly. On account of the low temperature the city is much frequented in the summer. During the winter the air is fresh and invigorating.

LA LAGUNA, 5½ m. (9 kil.), 1,840 ft. 12,000 inhabitants. Seat of Bishopric of Teneriffe.

HOTELS.—The Agüere, with good patio, near the Cathedral; Slee's Royal, with large garden, Calle Laurel; both 7s. to 10s. a day.

For advertisements see pages 30 and 31.

Public Buildings.—The *Town Hall*, with some curious old paintings on the staircase, representing scenes from the Conquest. In the hall above is the standard of the Conquest, embroidered by Isabel the Catholic. The original embroidery has been transferred to a new piece of crimson damask.—The *Instituto* (formerly Convento de San Agustin) and *Universidad de San Fernando*.

The interior of the large church is plain. The convent is the present official centre of instruction and contains, among other things, a *public library* of nearly 20,000 volumes; open from 10 a.m. till 4 p.m. A curious missal (Dutch) of the fifteenth century, in good preservation, and some early printed works of the sixteenth century, may be seen. Adjoining the building is the *Bishop's Palace*.

CHURCHES.—*The Cathedral*:—The interior, which is on the whole plain, boasts some good altars, carved and gilded, also the tomb of Don Alonso Fernandez de Lugo, the conqueror of the island, whose remains formerly rested in the Convento de San Francisco. There is a highly valued marble pulpit, brought from Genoa, which is fairly good.—*The Iglesia de la Concepcion*, with high tower. The oldest church in the city. There is some handsome carved wood-work, especially about the pulpit. In the altar to the N. of the chancel is a small picture of St. John the Evangelist, greatly prized owing to the face having been covered with what appeared to be human sweat during a period of forty days; and in the Baptistry the “*Piedra de los Guanches*,” a green glazed basin erroneously stated to have been made by the aborigines.—*The Convento de las Monjas*, still inhabited, contains in the public church some good altars and a few curious old pictures. One end of the church is composed of a heavy iron grille, separating it from the chapel of the nuns, who remain invisible. A portion of the grille is arranged as a confessional box and a small hole serves for administering the Eucharist to the inmates.—*The Convento de San Francisco*, now the barracks. The church contains a curious altar in silver with a famous crucifix.—*Iglesia de Santo Domingo* and the *Ecclesiastical Seminary*, with an old *dragon tree* in the garden of which the age is unknown, but which was large enough at the time of the conquest to cause the land on which it stood to be described as the *finca del drago*.

SQUARES.—*The Plaza del Adelantado*, well planted and ornamented with a large marble fountain. It is here that the band plays in the summer.

There is a Club (Spanish) in the Calle de la Carrera.

Upheld by many as a winter resort for the first stages of pulmonary disease, La Laguna is unquestionably a pleasant residence in the summer, although probably too cold for the majority of invalids from January to April. When the weather becomes warm, the wealthier classes assemble here in great numbers. To the inhabitants of Santa Cruz it is a godsend during the hot weather, being comparatively close to their doors, and all the high officials migrate upwards, bringing with them the military band, etc. The majestic old houses are opened and the nobility repose under the shade of their own quarterings, so plentifully strewn above the dark stone doorways, the quietude of the winter being replaced by what must almost seem dissipation by comparison. There is more level country about than is the case anywhere else in the island and many rides and drives may be taken, the first not being confined to those stated below, as branch roads permit of many a canter when desired.

EXCURSIONS.—*To Tegueste and Tejina*.—A good carriage road leaves the W. of the town, passes along an avenue to the left of a fruitful valley and, turning to the left, commences to descend by a deep cutting. From the corner a path leads away into the forest de la Mina. Continuing the carretera, at 4 m. Tegueste is passed, a small village with 1,625 inhabitants, a little to the right, and at 6 m. (9½ kil.) Tejina is entered, a pretty valley with about 1,590 inhabitants.

(From the village the coast can be reached in 1 hr., and an embryo port in 1½ hrs. From the carretera just above Tejina, a rough bridle road leads to Valle de Guerra, a few houses well situated in a fertile valley, in ¾ hr., and to Tacoronte in 1½ hrs. A return to La Laguna can be made from Tejina along this road in 1¾ hrs. by turning to the left at ½ m. from the carretera, or in 2½ hrs. by another turning near the group of houses. The latter route commands fine views.)

To Las Mercedes and the forest of La Mina.—A rough road, along which the livery stable keepers do not care to let their carriages pass, leads to *Las Mercedes*, 1 hr. on foot.

After leaving the village bear to the left where the path forks and the forest of *La Mina* or *La Fuente de Agua* lies in front. The spring itself, which is reached in $1\frac{3}{4}$ hrs., is enclosed by a stone basin. The woods are lovely.

To Mercedes, Cruz de Afur, Taganana, the Lighthouse, Anaga, Igueste, San Andres, the Valle Bufadero and Santa Cruz.—The same as above but on leaving *Las Mercedes* bear up to the right. At $1\frac{3}{4}$ hrs. the *Ermита de Sta. Maria del Carmen*, after which the scenery becomes most magnificent and, when seen in a good light between drifting clouds, is best described as a cross between a Dante's Inferno, a Doré's Heaven and one of Sir Augustus Harris's transformation scenes.

At $2\frac{1}{2}$ hrs. the *Cruz de Afur*, 3,230 ft., whence it is possible to descend to Afur. A little farther on is the left hand path (2,680 ft.) up from the Bufadero, which is however very difficult to hit off. The path runs as near as convenient to the top of the ridge and at $3\frac{1}{4}$ hrs. passes the *Cruz de Taganana*, 2,800 ft., which may be known by the small round cave under the cross.

(From here to the Bufadero and Santa Cruz refer Bufadero. The same reference will also show which is the path to the Lighthouse. Times to the Lighthouse are— $\frac{3}{4}$ hr. from the Cruz de Taganana to the *Cruz de San Andres*, 2,680 ft., where the ascent from San Andres crosses the summit; 3 hrs. to the point where the path leads down to *Igueste*; $3\frac{1}{2}$ to *Anaga*, 2,000 ft., no inn, no food; and down the beautiful *Bco. de Chimorga* to the Lighthouse, $4\frac{3}{4}$ hrs. or a total of 8 hrs. from La Laguna. For further information turn to Exc. from Santa Cruz.)

The road from La Laguna to *Taganana* leaves the *Cruz* on the right. The first turn to the left leads to *Afur*, the second to the *Vuelta de Taganana*, a steep picturesque zig-zag, 1 hr. down, $1\frac{1}{2}$ hrs. up. It is not worth descending unless *Taganana* is to be taken *en route* for farther on.

Taganana, 700 ft., $4\frac{1}{4}$ hrs., is divided into two groups of houses. Inn with a few beds, 4s. a day. The neighbourhood in uninteresting but there is a church, A.D. 1530, with an old altar-piece and Virgin, and there is a fine old dragon tree in a garden a little above it.

A descent to the sea leads round the steep Roque de las Animas to *Armásiga*, venta, $4\frac{3}{4}$ hrs. from Laguna, and so to the sandy shore, where the breakers are sometimes very fine.

(At 1 hr. a path to the right leads through very fine scenery and wooded cliffs to *Anaga*, 3 hrs. total.)

Farther on the path another ascent to the right goes round the coast to the Lighthouse (*el Faro*), 810 ft., $7\frac{1}{4}$ hrs. total. The closer in of the Anaga Rocks can be visited at low water.

From the Lighthouse to *Anaga*, $1\frac{1}{2}$ hrs., and for further details see Excursions from Santa Cruz.

Beyond the Cruz de Taganana a guide is advisable, but no one visiting Teneriffe should omit to make the excursion as far as this. Dry weather should be chosen as the paths are sometimes very slippery.

Excursions to the S.W. of La Laguna.—A bridle path reaches *La Esperanza* in $1\frac{1}{4}$ hrs. and may be continued along the Cuchillo or ridge as far as the Cañadas and so on to Vilaflor, etc. Distances, *Cañadas* about 8 hrs. or, by turning down to the left, *Arafo*, 6 hrs., and *Güimar*, 7 hrs. If the ridge is descended on the other side *Matanza* can be reached in about 5 hrs. or less if desired, and *Villa Orotava* in about 7 hrs. The climb from Laguna is fairly gradual and the scenery when clear most beautiful. The saddle back itself nearly always affords capital travelling. Guides indispensable in case of clouds as the precipices which terminate many of the mountain spurs on the S.

are impassable even with ropes and the pine needles render the descents very slippery. The highest point of the path is about 7,000 ft.

To *Agua García, Tacoronte, Matanza, Victoria etc.*—The old camino real leaves the carretera near the *fielato* on the N. side of Laguna and passes the fountain below the woods of *Agua García*, 1 $\frac{3}{4}$ hrs., 2,650 ft. (see Tacoronte) and gradually descends to the carretera again which it joins near *Victoria*, about 3 $\frac{1}{2}$ hrs. Travelling bad. *Matanza* can be reached by bearing to the right in a little less time or a lovely walk, terminating at the same place, can be taken by climbing up through the woods of *Agua García* to 3,200 ft. and bearing off to the right along that level. About 5 or 6 hrs.

To *Güimar, Arafo etc.*—See *S. of the island from Santa Cruz.*

About a mile to the N.E. of the town is the Convento de San Diego del Monte, probably the oldest monastery in the island. This formerly stood in the forest on the border of the lake across which the friars used to pass in boats. History says that the Spanish invaders tried to catch fish in it but without much success.

MAIN ROAD.—Leaving Laguna behind a long avenue of Eucalyptus trees and standing crop of beans of majestic stature are passed and the summit is reached, directly after which there is a pleasant glimpse of the Valley of Tegueste and the sea beyond, the road swings round to the left, and the long descent to Orotava is commenced. Plants become more varied and soon a delightful succession of green terraces and orchards, houses and flower gardens are passed, whilst there is a magnificent view of the Peak in clear weather. At 12 m. (19 kil.) *Tacoronte*, 3,903 inhab., a pretty village a little below the road. No inn, but refreshments and a bed can be had.

There are two churches and the parish contains a much venerated image of the Saviour in whose honour a feast is held in September.

Three-quarters of an hour above the carretera are the famous woods of *Agua García*, a small triangular forest of gigantic laurels and heath, said to have remained undisturbed since the conquest. The fountain mentioned in Exc. from La Laguna is a few minutes below the wood and the directions in which the walk may be extended are given in the same excursion.

Some of the heath trees are over 5 ft. in girth and as much as 50 ft. high. The laurels (*viñático*) are immense and the walk along the *atarjía* to the spring most beautiful. Altogether it is a most charming spot for a picnic.

MAIN ROAD.—At 14 $\frac{1}{2}$ m. (23 kil.) a path leads in 20 min. down to *Sauzal*, 1,300 inhab., picturesquely situated with a fine coast view. A bridle road, 1 $\frac{3}{4}$ hrs., connects *Sauzal* with *Tacoronte*. At 15 $\frac{1}{2}$ m. (24 $\frac{1}{2}$ kil) *Matanza*, the half-way house, is reached. Two inns: *Fonda de Maria*, very clean, food good, several beds, one dollar per diem; lunch 2 pesetas; *Fonda de José Manuel*, where the stage stops, 3s., lunch 2 pesetas, beds not recommended.

There is a very good view at the *Fuente* a little below the road.

Matanza, 1,920 inhab., with a good view of Peak, about 1,450 ft. above the sea, is a charming spot to spend a few days at in fine weather. It is here that

the Spaniards, after driving the Guanches from Laguna, were repulsed with heavy losses but revenged themselves a few days later at Victoria. The village itself is some 200 ft. above the carretera.

Excursions can be made to Agua García, Tacoronte and Sauzal, and the mountains, which are here within a measurable distance, can be crossed to Güimar in about 7 hrs. At *San Antonio*, a small village $\frac{3}{4}$ hr. up the hills, a curious *fête* is held in January, when all the beasts in the neighbourhood are brought round to be blessed.

Victoria, pop. 2,000, 1,310 ft. is 2 m. farther along the main road.

Pilgrims' Pass.—A badly kept bridle path leads from here to Arafo in about 6 hrs. See Arafo for further on or for diversion along the central cordillera.

At 19 m. ($30\frac{1}{2}$ kil.) the road dips into the deep *Barranco Hondo*, and ascends to a grove of palms, immediately after which (20 m. = 32 kil.) *Santa Ursula* with square and church.

Below the village is a large villa which commands a very fine view of the Orotava Valley, considered by many to be the remains of an immense crater corresponding to the valley or crater of Güimar on the S.

A little farther on the road turns to the left, and the same valley is seen from what is generally called by foreigners "Humboldt's Corner," as it was near here on the old road that the great traveller threw himself on the ground and saluted the sight as the finest in the world. All travellers do not agree with Humboldt.

A slight description of the panorama may be of service. Close below, on the left, some 4 m. from the sea, are the spires and domes of Villa Orotava. On the same level the eye can trace, by a broken line of houses, a road which leads across the upper valley through La Cruz Santa to the two Realejos, which are only partially visible. Beyond these and on the heights, is the little village of Icod el Alto (1,720 ft.). In the far distance are the white houses and the rock of Garachico. Returning along the coast, San Juan de la Rambla is seen, rather beyond the extreme W. of the valley or crater and about 9 m. away. There are scattered groups of houses everywhere, the local names for which are of little importance; and lastly the Puerto itself on a little surf-encircled promontory. Above the Puerto is a crater or cinder heap (the *Mña de las Arenas*), behind which is another, the M. de Chaves, and, in a straight line, yet another much smaller one, the M. de los Frailes. The opposite wall of the valley rises to the Cañadas which are immediately beyond the Fortaleza, so called from its resemblance to a military glacis. The back is composed of the central ridge of the island. The mountains on the left are thickly wooded and numerous fires may usually be seen where the charcoal burners are at work.

This part of the valley is very rough riding but some beautiful excursions may be made.

Beyond the Fortaleza is the Peak which, although more hidden here than in Matanza or Tacoronte, still forms a majestic pyramid of colossal dimensions.

The road now descends and crosses the *Bco. del Pino* and the *Bco. de Llarena*, which may be explored both up and down, as well for the sake of the scenery as for the numerous ferns, etc., to be found. At 23 m. (37 kils.) the *Ramal* or Junction, where the roads to the Villa and the Puerto separate.

The *Villa*, 24 m. ($38\frac{1}{2}$ kils.) is a little higher on the left and the *Puerto*, 26 m. (42 kils.) is reached by a winding road which passes to the W. of the *Mña de las Arenas*, separating there from the road to Icod, skirts the *Bco. de San Antonio* and bearing to the left, where the private drive leads to the Grand Hotel, enters the town. The pavement has been improved of late years and most of the hotels can now be reached in the carriage.

Passengers in the *public coach* must go the Villa or change for the Puerto at the Ramal. The same applies on the return and, even when going to Icod, it is best to make the Villa the starting point if an outside seat is wanted.

PUERTO DE LA CRUZ, OROTAVA, 4,720 inhabitants, N. side of Teneriffe, 26 m. (42 kils.) from Santa Cruz; $3\frac{1}{2}$ m. ($5\frac{1}{2}$ kils.) from the Villa, and 14 m. (23 kils.) from Icod. (Letters must be addressed *Puerto Orotava*; telegrams—*Puerto-cruz*).

Passengers by sea are landed by boats on the mole. One peseta each person. Packages, half a peseta each. There are no customs duties but cases are opened at the *fielato*.

Coaches to and from the Villa twice a day, changing at the Ramal, *see* time table.

HOTELS.—The Grand Hotel about 350 ft. above the sea. Airy situation and fine views, 10s. to 12s. a day; Hotel Martianez (old Grand), good position near Bco. Martianez, 10s. to 12s. with Dependance near the carretera, 8s.; Sitio de Luna with good patio, 8s. to 12s.; Slee's Royal, facing the Plaza de la Iglesia, 7s. to 10s.; Buenavista, at entrance of the town, 8s. and 9s.; Fonda Marina, near the mole, 4s. and 5s.

BOARDING HOUSES.—Several residents in the valley accept guests according to private arrangements. Among these are the Sitio de Cullen, admirably situated just outside the town with garden and tennis court. Mrs. Nixon, 16, Calle de las Cabezas, fine roomy house, etc.

For advertisements, see pages 28, 31, and 32 to 38.

Public Buildings.—The *Convento de las Monjas* an old convent now used as a school in which the cock-fights are held on Sundays. *Iglesia (Church) de N. S. de la Peña de Francia.* Fair interior. *Convento de S. Francisco*, now shut up.

The *English Church* with parsonage adjoining is in the grounds above the Grand Hotel and is well worth a visit as a curious example of what British enthusiasm can accomplish in a foreign valley which half-a-dozen years previously was almost unknown. Its completion is largely owing to the munificence of the late Mr. Walter Long-Boreham, but other visitors and residents have been extraordinarily liberal. The stained glass windows are really excellent modern productions; there is a good organ and a great part of the church is well paved with encaustic tiles. The chaplain is resident all the year round.

Puerto Orotava, the most widely-advertised health-resort in the Canary Islands, has already been so much written about that it is almost impossible to venture an opinion without contradicting some one or calling down on one's head the wrathful thunder of some scientific statistician. Having benefited greatly from a winter spent there, the writer begs to offer his own views which he hopes may be of service.

In normal weather clouds form around the Peak shortly after sunrise and descend more or less into the valley in accordance with the temperature. In mid-winter the shadow should not reach the Puerto in fine weather. It may thus be raining in the Villa whilst the sun is shining over the mile or so of land next the coast. In the evening the Peak should again be clear. It is repeated that this is normal weather, such as lasts at times for weeks, and there are seasons when for days at a stretch no clouds at all are formed. In the Puerto the warmest temperature is found. If the invalid ceases to benefit from it and becomes lax, or is attacked by diarrhoea, a move farther up should be made.

In a good winter there is but little cold weather but what cold there may be is felt, as it is accompanied by damp. From the middle of January to the end of February is the worst time and in a bad year may be disagreeable, the sky being overcast day after day and the sun being obscured by the thick mantle of clouds which will then envelop the Island. Such winters are, however, the exception. In cases of widespread disturbance the influence of the Peak is overcome and the wind bloweth from whither it listeth, but both here and elsewhere in the islands a day when there is no sunshine, or when one cannot be out of doors for at least three or four hours, is almost unknown.

The town itself is rather pretty, especially near the mole, where the groups of old houses and balconies offer some capital opportunities to the artist. One of the most lovely views of the valley is to be had from the smaller jetty. Permission would also readily be given to any one wishing to sketch from some particular roof or *mirador*. The rocks at low tide are full of interest to visitors, and bathing may be indulged in in places, in spite of the magnificent breakers constantly rolling in. It is to be hoped that the authorities will shortly see their way to provide proper accommodation for bathers of both sexes.

The centre of the valley has been opened up by the construction of the Grand Hotel and its gardens, which crown a bluff where formerly there was an inaccessible and useless stream of lava.

In the grounds is a private course where *corridas de sortija* are organised by the Grand Hotel during the season. (The public *corridas* are held in the bed

of the Barrauco Martianez.) The immediate vicinity seems likely to be used as sites for the houses of a constantly growing English colony. A private bridle path will shortly lead directly to the Botanical Gardens.

Walks and Excursions inside the Valley.—On the E. of the town is the *Bco. Martianez* and immediately beyond the cliffs of *La Paz*, once a rendezvous of the Guanches where games of skill were held.

The path which crosses the same *Bco.* near the sea leads up the cliff by a steep path below an old Guanche burying-cave, where the bones may still be seen sticking out, passes the *Fuente Martianez* ($\frac{1}{4}$ hr.), a very good spring whence all drinking-water should be brought, and follows the face of the cliff by a small path (perfectly safe to careful walkers) below and above the most extraordinary volcanic rocks and air chambers in the lava, now exposed owing to the inroads of the sea. There is also a deposit of red ochre and many wild flowers and maiden-hair ferns can be picked. Altogether this is a most interesting walk and may be prolonged indefinitely towards Sauzal, crossing the mouths of the barrancos, many of which are exceedingly deep, or ascending the bed of any of the same to the carretera, whence a return home may be made.

If the bed of the *Bco. Martianez* itself is ascended from the Puerto, the cinder heap is skirted and the carretera gained just above and to the E. of the same, $\frac{3}{4}$ hr., grand basaltic rocks; or a path crosses the same *Bco.* and ascends by bridle road in $\frac{1}{2}$ hr. to the *Botanical Gardens*. One-third up the last, a road to the left leads to *La Paz*, and may be followed along the top of the cliff. Less interesting than the lower path.

The Botanical Gardens are a most agreeable resort. All the plants of the Archipelago suitable to a garden may be seen here, and a few pleasant hours be spent under the shade of a cosmopolitan group of trees and a collection of flowers and creepers, scarcely to be found elsewhere.

Passing the gardens the road bears to the right then to the left, the carretera is crossed and the *Villa* is reached in a short hour from the start.

To Realejo on foot.—Towards the W. a long street leads from the Puerto past some blowholes and along the coast. Walking easily, the *Cemetery* and an old fort are reached in 10 min.; the Lazareto and Punta Brava in 20 min. (Punta Brava is a garden and farm which has been prettily laid out and can be visited by those obtaining permission). A little farther on are some handsome clumps of *euphorbia canariensis*. At 30 min. the path turns up to the left but it is possible to walk for a considerable distance round the cliff or to descend to the fine, bold rocks. At 45 min. the old road is entered by which a return can be made direct to the Puerto in $\frac{1}{2}$ hr. or the walk continued to the right through *El Toscal de la Gorvorana* and across the *Bco. del Patronato* to the carretera below *Realejo Bajo* in $1\frac{1}{2}$ hrs. total. Just below the junction of the roads but above the carretera is a very handsome young dragon tree.

Realejo can also be reached by leaving the carretera just beyond the *Cabezas* (the houses immediately above the Puerto), crossing the *Bco. San Antonio* and keeping along the old road for 35 min., when turn to the left and rejoin the carretera, $1\frac{1}{4}$ m. from Realejo. Time on foot, $1\frac{1}{2}$ hrs.

The bridle path leading up the *Bco. S. Antonio* to *La Cruz Santa*, $\frac{3}{4}$ hr. (and eventually to the Cañadas) can be followed to the right to Realejo, $1\frac{1}{2}$ hrs. or to the left to the Villa, $1\frac{3}{4}$ hrs.

The drive to Realejo along the main road occupies about $\frac{3}{4}$ hr. and is $\frac{1}{4}$ m. (7 kil.), see farther on.

Any of the cinder heaps in the valley can be climbed, and all command extensive views.

Besides the above there are several walks amongst the farms where those can go who are not afraid of dogs. As all these walks are on other people's land, visitors who chance to meet the proprietor should adopt the Spanish standard of courtesy, which is far more formal than our own.

EXCURSIONS to the Peak, Cañadas, Agua Manza etc. follow the description of the Villa. To la Corona, Icod el Alto etc., follow Realejo. For drives on the main road *see* the large print.

VILLA OROTAVA, 9,000 inhab., 1,100 ft. Formerly Arautápala, the capital of the Menceyato of Taoro, last Guanche King Bencomo. 24 m. ($38\frac{1}{2}$ kil.) from Santa Cruz, $3\frac{1}{2}$ m. ($5\frac{1}{2}$ kil.) from the Puerto, and $14\frac{1}{2}$ m. ($23\frac{1}{2}$ kil.) from Icod.

HOTELS.—Hesperides, 6s. to 8s. a day, airy situation, commanding splendid views.—Fonda del Pico.

Boarding Houses.—Miss Nicol (private) 13, Calle de la Hoya, £8 to £10 a month.

For advertisements see page 34.

Coaches to and from the Puerto twice a day, changing at the Ramal, *see* time table.

Public Buildings.—For the convenience of visitors from the Puerto, these are arranged in the best order in which to take them when ascending the Calle del Agua or bridle road.

On the left the *Town Hall*, formerly convent and Church de Santo Domingo. Pretty patio, and interior of Church handsome. A few houses higher up is the *Spanish club*. Ascend and bear to the left to the Plaza de la Constitucion. Fine view of town and valley. At the end of the Plaza is the *Church and Convent of San Francisco*.

Walk on a little farther, turn down to the left and return across the town by a lower street to below the Church. Here is the house of the Sauzal family, in whose garden may be seen the tallest palm in the islands, 110 ft. high. Four hundred years ago it was much the same height as it is to-day, and was a famous Guanche landmark. Near this was the old dragon-tree previously mentioned, the hollow trunk of which, after having served the aborigines as a temple for ages, was put to the same use by the Spanish conquerors, who held mass there. It measured $48\frac{1}{2}$ ft. round at 60 ft. from the ground, and was 95 ft. high. In the house of the Cologan family, immediately above, is a chestnut-tree planted by the Spaniards in 1493, which measures $27\frac{1}{2}$ ft. round. Opposite is the *Convent and Church de las Monjas*, now closed. A few paces higher is the *Iglesia de la Concepcion*, a fine building with a good interior and a fair marble pulpit. This is the fashionable part of the town and at the back, a little higher than the Church, are a group of large buildings with admirable balconies, more par-

ticularly that of the last on the left, which is painted and which, as well as the interior of the house, is modelled after the far-famed Casa de Toledo. Now descend again to the left, pass in front of a large stone building in course of construction and turn up the hill to the right. At two-thirds up the *Church of San Juan*, worthy of a visit, and at the top a most picturesque conjunction of aqueducts.

From the aqueducts turn down to the right, and, descending a steep street, pass the hospital with beautiful vista of three arches in the entrance, formerly a convent. A return to the Puerto can then be made past the Hotel and the Church or, by turning to the right, the carretera can be taken if desired.

There is a large tomb of coloured marbles to be seen in a garden belonging to the Marquesa de la Quinta, with an inscription resenting the conduct of a local priest to her deceased son, a Freemason. Visitors are permitted to enter here and elsewhere by sending in their cards or procuring introductions but the gardens in the Villa are small and admission must not be looked upon as a right.

No one can enter the Villa without being struck by its quiet exclusive character. Always favoured by the Spanish aristocracy, it has suffered more than any place by the decayed fortunes of the land proprietors. Many visitors stop here on account of the climate, which is much fresher than that of the port.

WALKS AND EXCURSIONS.—*Viâ La Perdoma and La Cruz Santa to Realejo*.—A bridle path, which is level for some distance, leaves the Villa just above the Hospital and leads across the valley to *La Perdoma* ($\frac{3}{4}$ hr.) *La Cruz Santa* (1 hr.) *Realejo Alto* ($1\frac{1}{2}$ hrs.) and across the Bco. Patronato to *Realejo Bujo* and the carretera in $1\frac{3}{4}$ hours. This road communicates at more than one point with both the upper and lower parts of the valley.

To La Florida, Sta. Ursula, Victoria, etc.—Passing the aqueducts at the top of the town and bearing to the left *La Florida* is passed in $\frac{3}{4}$ hr.; the *Bco. de Llarena* and the base of the *Cuesta de Bacalao* are crossed and the carretera is entered when desired in about 2 to 3 hrs.

To Arafo, etc., viâ the Pilgrim's Pass.—Follow the same path and join the pass above Victoria in about 3 hrs. and to Arafo in $6\frac{1}{2}$ hrs. See Arafo.

To Arafo or Güimar viâ Pedro Gil.—Ascend straight up the Villa leaving *Agua Manza*, 3,930 ft., $1\frac{1}{4}$ hrs., where permission to pass the night in the farmhouse can be obtained, about a mile to the left and so on to *Güimar*, 6 hrs., see Güimar. A very fine excursion.

To the Pinar.—The *Pinar* above *La Florida* and the Villa, bounded on the W. by *Agua Manza* and on the S.E. by the *Mña Blanca* (not that adjoining the Peak) is full of romantic beauty and affords numberless climbs and walks. The paths are steep and easily lost in foggy weather. A guide should be taken as this part of the island, at the height where the forest is found, is very subject to the sudden formation of clouds.

TO THE CAÑADAS AND THE PEAK.—*From the Puerto*.—Since the paths have been repaired by the English visitors the best way, especially in wet

weather, is to drive to Realejo and mount the mules there. Both the Realejos are passed through and the path taken to the *Palo Blanco*, $1\frac{1}{2}$ hrs. from the Puerto, 2,200 ft., where water can be obtained. This is at the foot of the *Monte Verde*. At $2\frac{1}{2}$ hrs., the top of the *Monte Verde* is reached, the slope so far being at about 12° . The road now becomes more even and passes among rough hillocks where the heather has given place to the codeso, pumice-stone being occasionally seen. At $3\frac{1}{2}$ hrs. the codeso ceases and the retama begins and, passing through the *Portillo* (7,150 ft.), the *Cañadas* appear as a glaring desert with ranges of mountains in the distance and the Peak standing grim and solitary in the centre. The path now leads to the S.E. side of the *Montaña Blanca*, a round hump 8,985 ft. high, of a light yellow colour, adjoining the E. base of the Peak and thickly covered with small pieces of pumice, of which a large quantity is extracted and shipped home to Europe.

The foot of the *Lomo Tiezo*, or cone which rises at an angle of 28° is reached in $7\frac{1}{2}$ hrs., time being given for lunch. A well-marked path climbs the E. face of this, over lava blocks and loose cinders, to the *Estancia de los Ingleses*, 9,710 ft. ($8\frac{3}{4}$ hrs.). If there is time before sunset, after which it becomes suddenly cold, a short rest may now be taken, then on to the *Alta Vista*, 10,702 ft. ($9\frac{1}{2}$ hrs.), a small space below a bifurcation of lava, on which a stone hut has been built.

This hut is the result of the philanthropy of an English resident, a fact which visitors ought to recognize. It has three rooms with bedsteads, bedding and washing conveniences; stoves, boilers and other necessities and stabling for about ten beasts. Its construction has conferred a great benefit on those ascending the Peak. A small charge is made for the use of the hut.

As *Alta Vista* faces the E., it is not necessary to climb to the top before sunrise. In this matter travellers will of course please themselves, but the cold is often severe, more so than at sundown when the rocks continue to shed a little warmth. As the sun rises it is seen reflected in the sea as a round ball; the waves are invisible from so far away and any clouds there may be seem rather to rest upon the water than to be three or four thousand feet in the air. At sunset the shadow of the Peak is thrown like a great pyramid to an immense distance. Mules can be used for a short way above *Alta Vista* except when there is deep snow, when they must often stop much lower down.

Leaving the camp, tell the guides to keep to the right on the large blocks of lava. At $1\frac{1}{2}$ hr., the *Rambleta* (11,700 ft.) is reached. This is the crater from which the Pilon or Sugar Loaf rose. It is now only distinguishable by the temporary decrease in the steepness of ascent, by the change of colour and by the fact that no lava streams are to be found issuing from higher up. The stones and dust rolling down the Sugar Loaf gradually widened its base till it covered the parent crater. One hundred feet below this side of the *Rambleta*, which, by the bye, is considerably lower on the W., is the *Nariz* the first blowhole encountered. The angle of the *Pilon* itself is from 33° to 38° and the *summit* (12,192 ft.), which is of a whitish colour and which is believed to contain a large quantity of sulphur, is reached in about 2 hrs., or $11\frac{1}{2}$ hrs. altogether.

The little crater at the top is about 80 ft. deep and 300 in diameter, the centre smooth and in colour white and bright yellow tinged with red here and there, many of the blowholes, which are about two or three inches across, emitting a sulphurous vapour of such heat that it is impossible to bear the hand near them. Any one may safely walk about the inside, but care must be taken or the chemical deposits will spoil the clothes. Birds, bees, flies and spiders are found congregated here for the warmth.

As regards the view, those who cannot ascend the mountain would probably greatly help their imagination by looking at a lunar crater through a telescope. The surroundings are the essence of desolation and ruin. On one side the rounded summit of the *Montaña Blanca*, on the other the threatening crater

of Chahorra, $\frac{3}{4}$ of a mile in diameter, 10,500 ft. high, once a boiling cauldron and even now ready to burst into furious life at any moment; below the once circular basin of the Cañadas, seamed with streams of lava and surrounded by its jagged and many-coloured walls; around a number of volcanoes standing, as Piazzi Smyth says, like fish on their tails with widely gaping mouths, and below the pine-forest and the sea, with the "Six Satellites" floating in the distance, the enormous horizon giving the impression that the looker-on is in a sort of well rather than on a height which, taken in relation to its surroundings, is second to none in the world.

A descent is made over large lava blocks to the N.E., and the *Ice Cave* (11,040 ft.) is visited. An entrance can often be made from above by means of some ladders. The cavern is divided into three long passages, snow and ice remaining unmelted inside all through the summer. Piazzi Smyth describes it as a crater of elevation and the natives believe that it is connected with the interior of the mountain and the Guanche burial cave below Icod. Alta Vista is reached again in about 1 hr. from the summit.

*Other roads from the Puerto to the Peak are:—*By the bed of the Bco. San Antonio through *La Cruz Santa*, 1450 ft., $\frac{3}{4}$ hr., to the *Palo Blanco*, $1\frac{1}{2}$ hrs., and through the *Portillo* as before, or drive to Realejo Bajo and ride up to *Icod el Alto*, 1720 ft., $1\frac{3}{4}$ from the Puerto, across the *Corona* and past the *Fuente Pedro*, a spring marked by two trees, $2\frac{3}{4}$ hrs., up the *Monte Verde* and over the *Fortaleza*, 5 hrs., into the Cañadas, the tracks followed by those coming *viâ* the *Portillo* being joined at about $5\frac{1}{2}$ hrs. This route is rather longer than the others and is best taken on the return journey but should not be used in rainy weather.

The best road from the Villa is to take the *Perdona* Road above the Hospital, turn up through a gate sharp to the left at $\frac{3}{4}$ hr. and make for the *Fuente de la Cruz*, 3350 ft. The path from the *Palo Blanco* to the *Portillo* is then joined. Time a little less than the first route given. This track should also be avoided in wet weather, when the start should be made, as before stated, from Realejo. There are other paths known to the guides which need not be described.

*Hints to those climbing the Peak on the Cañadas:—*It is possible for a very active man to walk up the Peak and back at a stretch. To do this a moonlight night should be chosen and the walk so timed that the summit is gained as near sunrise as possible. The usual time of departure is in the forenoon so that there is time to make things comfortable in the hut before nightfall.

The ordinary plan is to take a mule and a man to each traveller with extra beasts and men to look after the wraps, water and other necessities. Plenty of clothing is wanted during the night which is sometimes very cold. Care should be taken that the men do not drink all the water.

A firm hand is necessary with the guides who cannot be trusted in any but the finest weather. When snow is on the ground they are of very little use. Any attempt to shirk their duties should be stopped at once and matters cannot be left in their hands as is customary in Switzerland. Taking it as a general rule only very strong and experienced climbers should attempt the Peak in mid-winter.

As the seasons at great heights are earlier than is the case lower down, it must be remembered that visitors during the autumn months may encounter winter at the top.

The following deductions, made from Piazzi Smyth's experiences during a two months' sojourn (July—Sept., 1856), as well as from a quantity of information derived from other sources and from what the writer has himself observed, may be of help and interest.

During normal weather the clouds consequent upon the N.E. trade-winds reaching the islands fluctuate between 3,500 and 5,000 ft. Thus it may be blowing hard down below and be quite calm above. Clouds around the Peak itself are generally consequent upon the S. or S.W. winds. During the summer the trade-wind cloud-stratum is fairly constant.

The dust haze exists up to 9,000 ft., beyond this point the shadows are very dark and distance is very difficult to estimate, whilst photographers will find details faithfully reproduced from very far off. Fires can easily be made from the dead retama, a broom which is only found on the Cañadas and which is very odoriferous and full of honey, the native palm-tree beehives being often taken up in the summer to extract the same.

Von Buch suggests that the Cañadas are the floor of a crater of elevation formed under the sea and Piazzzi Smyth found evidence of the action of waves on the outside of the S.W. wall at about 7,000 ft., leading him to believe in a slow and unequal rise of the whole island. Signs of great heat are visible at times in the side walls of the crater, which vary in height from 1,900 ft. at Guajara on the S.E. to seven or eight hundred ft. at other places, the N. wall being lower than the S. From the Fortaleza on the N., to where they recommence on the S.W., the Cañadas and their walls have been destroyed and carried away by successive floods of lava and, in addition to this large gap, the gateway or Portillo above Orotava would allow easy egress to any stream of lava or flood of water coming in this direction. In fact, the whole remaining basin of the Cañadas slopes towards it and it is probably owing to this fact that the disastrous rush of water, which formed the Bco. San Antonio, burst upon the unsuspecting valley on the 6th of November, 1829. No rain fell low down and it is not possible to say with certainty whether the water was the overflow of a storm which had already charged the great pumice-stone sponge to saturation, or whether it was the result of part of the wall giving way and allowing former pent-up waters to escape.

The Cañadas or crater itself, about 7,200 ft. high, is an undulating plain of yellow pumice-stone, which, in conjunction with the hard blue shadow, has, in certain lights, a green appearance almost like grass from the distance, a fact which has led to some very erroneous statements being made. Lava streams cover the greater part of its surface, and progress is made between these where the crevices are filled up with soft rubble or by skirting the outside wall. It has been conjectured that the oldest lava streams are those of a yellow colour, that the brown streams followed on these and that the black came last of all, the three being less fluid and less abundant in the order given.

Obsidian is often found but is generally very friable. Almost the only plant that grows is the retama, which is found from about 6,000 to about 10,000 ft. and of which the bushes are sometimes very large. An interesting evidence of the rate of descent of the hills of rapilli may be seen in the distances which separate the withered branches of the dead retama from the parent root, the state of the branches showing how regular is the progress. A violet (*Viola Teydensis*) grows, but is very rare. Lavender, grass and a few other plants slightly relieve the monotony of the desert and in one or two instances a pine-tree just shows its head over the top of the wall.

From the Valley of Orotava to Vilaflor etc.—Take the road to the Peak to a short distance beyond the Portillo then bear to the left. (At 4½ hrs. a path climbs the hills on the left in the direction of Laguna.) At about 5 hrs. is a cave to which a door has been fixed and in which shelter can be found for several men and animals.

At about 6¼ hrs. is the *Fuente de la Grieta* a perpetual spring, where excellent water has been laid on to a trough by means of leaden pipe. This is a good place to camp out during the summer. (The door and the leaden pipe are due to the kindness of Mr. G. Graham-Toler who was instrumental in building the hut at Alta Vista.)

At 7 hrs. the spring below *Guajara* is reached, another convenient spot for camping.

In fine weather any one can sleep out in the open but it is advisable to keep a good fire going all night. The guide will soon find a sheltered corner in among the lava. Wraps of course must be taken, and insect-powder is advisable.

The character of the Cañadas is here different to that nearer Orotava. The pumice-stone desert interspersed with lava has become a desert of lava with a fringe of pumice along which it is alone possible to make headway. The surrounding walls are very high and up these the path is carried to Vilaflor, passing only a short distance below Piazzì Smyth's astronomical station. From here the road descends through a constant succession of cinder heaps, dolomite rocks, pumice-stone, etc. At $8\frac{3}{4}$ hrs. the *Fuente de Ucanca*, after which the pines above *Vilaflor* are seen, and the town is entered ($10\frac{1}{2}$ hrs.). (From here to Icod or for the S. of the island, *see elsewhere*.)

(As there is not much inducement to descend to Vilaflor for one night, those on the way to *Guia*, *Santiago*, or *Icod* can continue along the paths inside the Cañadas past *Los Azulejos* to the *Boca de los Tauce*s where the pass from Vilaflor to Icod is joined in about $1\frac{1}{2}$ hrs. and a saving of over 4 hrs. is effected. It is possible to ascend the Peak from this side if desired).

MAIN ROAD.—From the Ramal or from the Puerto to *Realejo Bajo* is about $5\frac{1}{2}$ m. ($8\frac{1}{2}$ kils.) and takes from $\frac{3}{4}$ hr. to 1 hr. to drive.

Realejo Bajo, 1,000 ft., 2,300 inhab. is $28\frac{1}{2}$ m. ($45\frac{1}{2}$ kil.) from Santa Cruz and is divided by the deep Bco. Patronato from *Realejo Alto*, 1,200 ft., 2,700 inhab. Both suffered severely from a flood in 1820.

Entering from the carretera at the bottom of *Realejo Bajo*, the Church of *S. Augustin* with good carved ceiling and the adjacent *Convento de las Monjas* are encountered. Keep to the right below these, and ascend to the *Parish Church*, a large plain building.

A steep climb now leads to the *dragon-tree*, a younger, but at least as fine a specimen as that in Icod, measuring 15 ft. 8 in. in girth at 4 ft. from the ground, although less than 200 years old. There is a good view of the valley. The Barranco del Patronato is crossed and the *Church of Santiago* in *Realejo Alto* is arrived at. The part of this building next the spire is said to be one of the oldest churches in the island. The whole of the interior is quaint and well worth visiting. The ceilings and fretted beams are particularly good and should be of interest to architects, or to those interested in the construction of churches. A return is now made by direct descent to the carretera. There is no inn or accommodation worth mentioning, nor can lunch be procured. It may be of interest to state that the Guanches were finally subdued in this neighbourhood, and the last kings were baptised on the site of the old church.

Excursions from Realejo.—From the parish church in *Realejo Bajo* a paved road leads in 1 hr. to *Icod el Alto* and the *Bco. de Castro*. This beautiful excursion can be continued through *La Guancha* to Icod (*see Icod*).

To the Corona etc.—When crossing the Bco. Patronato between the two villages a turning to the right ascends the cliffs known as the *Mña. de Tigaiga* and leads to the top of the *Corona*, 2,800 ft., in about $1\frac{1}{2}$ hrs. from the carretera. This magnificent walk can be continued along fairly level paths at

the 3,000 ft. level to *Icod de los Vinos* which is reached through the pine woods and past the *Ermita Sta. Barbara*. Time about 6 hrs. total.
The paths up to the Peak and the *Cañadas* are mentioned elsewhere.

MAIN ROAD.—From *Realejo Bajo* ($28\frac{1}{2}$ m. = $45\frac{1}{2}$ kil.) to *Icod de los Vinos* ($39\frac{1}{2}$ m. = 63 kil.) Distances from *Santa Cruz*.

The *carretera* is here at its best and a beautiful view of cliff and coast is enjoyed equal to anything on the *Riviera*. Times given are on foot.

At $\frac{3}{4}$ hr. the *Bco. Espinosa*, up which a small path leads to *Icod el Alto*, in 2 hrs. At $1\frac{1}{4}$ hrs. *Bco. Ruiz*, where there is a fine bridge and some deep cuttings. A pleasant walk may be taken up here and it is a good place for picnics. A dangerous path leads to *Icod el Alto* in $1\frac{1}{2}$ hrs.

At $1\frac{3}{4}$ hrs. (33 m. = 53 kil.) *San Juan de la Rambla*. Fonda, 5 beds, 3s. a day. Small church, old interior; worth visiting. In front of the church a picturesque balcony over No. 2.

The road now leads through dry volcanic valleys and ravines. Presently the Peak is sighted, and a splendid view obtained at *Buen Paso*, $2\frac{3}{4}$ hrs. At $3\frac{1}{2}$ hrs. the outskirts of *Icod* are reached, and the straggling town is crossed to the hotel ($39\frac{1}{2}$ m. = 63 kil.)

ICOD DE LOS VINOS, 800 ft.; 5,500 inhabitants.

Hotels,—Ingles, 8s.; Federico, 4s.

Churches.—*San Marcos*, a building of little interest. Attention is called to the handsome silver cross to be seen in the *Capilla de la Cruz*; *San Francisco*, formerly a convent. The chapel, now used for cock-fights, has a good ceiling. The cells are occupied by the police.—*San Augustin* and convent.—There is a small harbour below the town.

The chief attractions of *Icod* itself are the views of the Peak, which are magnificent, the best being obtained from the roofs of the houses around the plaza; the dragon tree near the church, the largest in the island and said to be 3,000 years old, and the *Guanche* burying cave below the town.

The great stream of lava which overwhelmed *Garachico*, as well as that town itself, can be easily visited. *Icod* is prettily situated, being built on a great slope, intersected by many streams of lava, now covered with earth and vegetation.

Silk is made in the town on a small scale, also straw hats.

The water supply is excellent.

EXCURSIONS FROM ICOD.—To *Garachico*, *Los Silos*, *Buena Vista*, *Palmar* and *Santiago*.—Drive or ride along the new

carretera or follow the old road down the Calle Hercules past the church, take the first turning to the right and by the third to the right again (20 min. from the top) the *Guanche Cave* is reached in about 200 yards. Enter by the first door in the wall where there is a hut with a palm tree and enquire. Torches must be taken. The walking inside is rough but the cave may be followed to a hole in the cliff overlooking the sea. A few little bits of bone are still mixed with the earth near the end but the rest have been carried away. The cave is supposed to communicate with the Peak but can only be followed upwards for about 400 yards. Return to the cross-roads, of which that leading down goes to the shore, and follow that to the W. After a pretty walk over a stony road, leading past the sugar factory and through the sugar plantations of Daute in $1\frac{1}{2}$ hr. enter

GARACHICO, 2,969 inhabitants. No inn but beds can be had (with difficulty). Formerly the chief port of the island but now unimportant. The black streams of lava to be seen descending the cliff behind it rushed upon the town in 1706, destroying a great number of houses and a quantity of property, in addition to filling up the harbour and finally ruining the town, which had already suffered severely in 1645 by a flood of water that carried away eighty houses and upwards of a hundred people.

Public Buildings.—*Church of Santa Ana*, with handsome interior and roof.—*Church and Convent of San Francisco*, now the school. The double church is poor but the pair of patios with old picture are well worth visiting as good specimens of their class. A cross over the church door is made of old Delft tiles.—*Church and Convent of Santo Domingo*; Church now used for burials, and convent as a hospital. A “torno,” or turnstile, for foundling infants, may still be seen.—*Convento de Monjas de la Concepcion*, still contains a few nuns; Church without interest; closed from 12 to 3.—*Convento de San Augustin*; burnt down and façade only left.—*Castillo de San Miguel*, with five heraldic shields over the door.

From the long list of convents and churches still remaining some idea may be gained of the former importance of the place. It is easy to trace the descent of the lava but not to divine all the damage done until gazing through the so-called Puerta de Tierra, a small *cul de sac* passage, just to the right of the running fountain in the Plaza de la Fuente, which formerly led down to the sea, but now to a confused mass of lava piled high in the air. The houses above crown a bluff on which was once a large iron hook to which vessels could be made fast and the harbour was at the mouth of a barranco of which now no trace remains. The wine trade has fallen away so much that the necessity for a port near Icod, formerly a great centre for wine, is not so great, but a landing stage has been made below that town. Doubtless Garachico could be made into a fair harbour by connecting the rock in front with the shore.

The bridle road from Garachico traverses the lava slope and proceeds by a fruitful plain, running beneath a gigantic cliff, to *Los Silos*, 1,247 inhab., no inn, 1 hr.; to the S. of the

Mña de Taco and across a sterile tract of country to *Buena Vista*, 1,933 inhab., $1\frac{3}{4}$ hrs.; accommodation bad, one dollar. This is an unattractive village where very good wine was formerly grown.

From here to *Palmar* (1,650 ft.), a steep climb, $1\frac{1}{4}$ hrs. No inn, but a bed may be had. *Palmar* is a pretty valley, from which the *Pico de Barracan*, a mountain to the W. about 6,000 ft. high, can be ascended in $1\frac{1}{2}$ hrs. A fine view is obtained of the Peak and the group of volcanoes to the N.W. of the same. Excursions can also be made towards *Punta de Teno*, *Carrisal*, etc.

The road then ascends the valley, and the scenery becomes more volcanic, *Santiago* being reached in about 4 hrs. from *Buena Vista* or a total of $7\frac{1}{4}$ from *Icod*. Refer elsewhere for details or continuation of journey to *Guia*, *Vilaflor*, *Güimar*, etc.

Buena Vista can be omitted, and a more direct road followed from *Los Silos* to *Palmar* over the *Cumbre de Volico* in 2 hrs. The low-lying ground near *Buena Vista* seems to be largely composed of volcanic mud, as is the case near *Gáldar*, in *Grand Canary*.

To Valle de Santiago via La Culata.—Cross the *Bco. de la Hacaña* go through the tunnel and keep along the top of the cliff to *La Culata* (1,625 ft.), a small village, 1 hr. on mule. The cliff can be descended to *Garachico* on foot from *La Culata* or from the *Fielato*, $\frac{1}{2}$ hr. from *Icod*.

Immediately after the village the stream of lava which overwhelmed *Garachico* is encountered. This frightful exhibition of volcanic fury takes twenty minutes to cross and is a succession of ravines where the hot lava in the centre has ploughed great furrows in the partially cooled mass which had gone before it. It is only after seeing this that the country as far back as *San Juan de la Rambla* can be properly appreciated, being, as it is, one long succession of similar outbreaks, now more or less disintegrated or overgrown, but nevertheless destructive in their time, although no doubt necessary as buttresses to the mountain side. The lava of 1706 is only commencing to decompose but, as has already been remarked, there is good reason for believing the more recent overflows of lava in the *Canaries* to be less friable than their predecessors, so that it is difficult to estimate the antiquity of that which passes through *Buen Paso* or the town of *Icod* itself by comparing it with this newer example.

The path now bears slightly to the left and at 2 hrs. *El Tanque* is passed. At $2\frac{1}{2}$ hrs. *Rigomaz*, and $\frac{1}{4}$ hr. farther *Las Tronqueras*. A few minutes farther *Los Dornajos de Erjos*,

where there are several springs, and at 3 hrs. the *Summit* or *Cumbre del Valle* which commands a good view. Passing the *Iglesia Vieja* the village of *Santiago* is entered $3\frac{3}{4}$ hrs. total. For details refer elsewhere.

This part of the island is greener than usual and the land is fertile. There is a certain amount of sport to be found as well as a succession of mountains and valleys which can only be explored properly by those taking a tent.

Plans have been passed for building a lighthouse at the *Punta de Teno*.

To Santiago viâ la Vega.—A rough and somewhat longer road leaves the top of *Icod*, passes the *Ermita San Antonio*, $\frac{1}{4}$ hr., the *Ermita del Amparo*, $\frac{1}{2}$ hr., crosses the *Bec. de la Vega*, 1 hr. on mule, passes through some houses to the *Cruz del Almorzadero*, $1\frac{3}{4}$ hrs., situated just below the *Mña de Serrogordo* and so viâ *Los Partidos* to *Santiago* in about 4 hrs. Guide necessary.

Over the Cañadas to Adeje, Vilaflor, etc.—Ascend past the *Ermita San Antonio*, pass the turning to the right and keep on up to the *Fuente de la Vega* where there are a few heath trees ($1\frac{1}{2}$ hr. mule). The *Mña de Serrogordo* is kept on the right.

The *Monte Verde* is now entered, and heath, jara, laurels and pines gradually succeed one another. At 3 hrs. *El Llano de los Hermanos*, near which seven travelling friars were once frozen to death. Close by is a mountain (*La Caldera*) from which there is a fine view of the N.W. group of eleven volcanoes. Soon the road climbs an old lava stream and at $4\frac{1}{2}$ hrs. the lava stream coming from the base of *Chahorra* and flowing towards *Garachico*, is crossed. From near here *Chahorra* can be ascended. It is a hard rough climb and takes about 8 hrs. from *Icod*. The crater is $\frac{3}{4}$ mile wide and about 150 ft. deep. At $4\frac{3}{4}$ hrs. the *Cruz de Téa*, a half-way mark, is met with. The stones only remain, however, as the cross has disappeared. Close to this are the *Hornillas del Teide*, two holes in the lava, apparently very deep and supposed of course to communicate with Hell. The travelling on this part of the journey is very bad.

At 5 hrs. the lava stream which runs towards *Guia* is crossed, the last eruptions of lava having taken place up here in 1796 and 1798. (Those going to *Adeje* will here descend to *Guia* unless they prefer to take *Adeje viâ Vilaflor*. For times see *Guia*).

There is a good view here and there of the coast and the lower volcanoes with *Palma* and *Gomera* in the distance, the *Peak*, which is at first quite close, being gradually hidden by

Chahorra. At $5\frac{1}{2}$ hrs. the former again becomes visible, the slag and clinkers at length give way to the smooth pumice floor of the *Cañadas*, and the S.W. extremity of the walls of same commence. Here and there, however, lava is again crossed and at last at $6\frac{1}{2}$ hrs. the path leads through the *Boca de los Tauces* to the outside slope.

It is a very bad road from here, along coarse pumice and rocks, to the *Bco. del Dornajito*, where good water may sometimes be found a little to the left of the path ($7\frac{1}{4}$ hrs.). From 2 minutes beyond the spring the path descends all the way to Vilaflor, passing the Ermita San Roque immediately before arriving. Total time $9\frac{1}{2}$ hrs., not allowing for stoppages.

(For Vilaflor and excursions or for the other side of the *Cañadas* *viâ los Azulejos* see elsewhere.)

A return from Vilaflor to Icod can be made *viâ Guajara*, $\frac{1}{4}$ hrs. to the spring, across the *Cañadas*, and under the *Fortaleza*, $7\frac{1}{2}$ hrs., down through the pine forest over rough rolling lava, pass the *Fuente Pedro*, $9\frac{1}{2}$ hrs., where the water is caught up and carried into Icod by an iron pipe, and so through the Monte Verde and amidst a number of intricate paths to Icod in about 14 hrs. The night must be passed on the *Cañadas* and the journey is a most villanous one, though there are some good views on the descent.

(For the best way to reach Icod from the *Fortaleza* see the next excursion.)

To the Fortaleza viâ La Guancha.—Leave Icod by the Orotava end and ascend to the *Ermita Santa Barbara*, $\frac{3}{4}$ hr. to *La Guancha*, 1,547 inhabitants, no inn, 2 hrs. Keep to the right by little frequented paths up to the *Fortaleza*, in about $5\frac{1}{2}$ hrs. It is not necessary to go through *La Guancha*. The way is difficult to find and a guide is required. A return can be made to Orotava by *La Corona* and *Realejo*.

The side of the *Fortaleza* exposed to the *Cañadas* is very fine. This is the only part of the wall from the Portillo on the N.E. to the M^{ña} de Chabao on the S.W. that has fought the fight and survived. Its many coloured scars and fire eaten front are a standing record of the high temperatures of which they have borne the brunt.

To La Corona, Realejo and Orotava.—Pass the *Ermita Santa Barbara* and work straight up to the pine-woods. Keep along the 3,000 ft. level to *La Corona*, one of the most astonishing views in the world. Then drop down to *Realejo* and on to *Orotava*. This journey is best done on foot without guides, is extremely lovely and occupies some $7\frac{1}{2}$ hrs. No guides would take the paths referred to.

To *La Guancha*, *Icod el Alto* and *Orotava*.—To *La Guancha*, as above, 2 hrs., whence cross the top of the lovely *Bco. Ruiz*, $3\frac{1}{4}$ hrs., to the Church of *Icod el Alto*, $3\frac{1}{2}$ hrs. A few minutes later the spring in the *Bco. de Castro* is passed and at $3\frac{3}{4}$ hrs. the splendid view over the valley is reached. Descend to *Realejo Bajo*, $4\frac{1}{2}$ hrs., and on to *Orotava*, $5\frac{3}{4}$ hrs. This is a regular mule track.

APPROXIMATE PRICES OF HORSES AND CARRIAGES.

(Taken with the exchange at $28\frac{1}{2}$ pes. to £1.)

| (IN SANTA CRUZ.) | Carriage to hold Five (Three Horses). | Carriage to hold Two (One Horse), No Luggage. | Riding Horses. |
|------------------------------|---|--|-------------------|
| For about 2 hrs. ... | 6/- Return. | 4/- Return. | 3/- |
| Laguna .. | 8/- " | 5/- " | 4/- |
| Las Mercedes ... | 16/- " | 10/- " | 6/- |
| Tegueste ... | 14/- " | 8/- " | 6/- |
| Tejina ... | 16/- " | 10/- " | 6/- |
| Tacoronte... | 14/- " | 10/- " | 6/- |
| Matanza ... | 16/- " | 10/- " | 6/- |
| Villa Orotava ... | 24/- Single. | 12/- Single. | 8/- |
| Puerto Orotava ... | 24/- " | 14/- " | 10/- |
| Realejo ... | 26/- " | 16/- " | 12/- |
| S. Juan de la Rambla ... | 32/- " | 18/- " | — |
| Icod ... | 44/- " | 22/- " | — |
| Arafo (end of carretera) ... | 24/- " | 14/- " | 8/- |
| Güimar ... | 24/- " | 12/- " | 8/- |
| Escobonal ... | 32/- " | 16/- " | — |

Where "single" is written above, those wishing to return the next day must add 8s. to the prices given.

Donkeys 1s. an hr. or 4s. a day.

Special carts with luggage to Orotava $2\frac{1}{2}$ to 3 dols.

Horses and mules should be hired further in the country. They differ in price in different localities and in accordance to the work to be done. A fair price is a dollar a day, the man to find everything, including his own bed and food. For steep mountain paths as much as 6s. must often be paid and for a single day even more.

Carts carry luggage by the piece and charge according to size. These carriers are constantly coming and going where the carretera runs, or mules can be engaged elsewhere, but the special days from Santa Cruz to Orotava are Tuesday and Friday and back again on Monday and Thursday. Private carriages will take as much as possible and the omnibus will carry handbags and so on.

When carriages or horses are kept waiting for an unreasonable time an extra charge is made.

Prices in La Laguna : Horses can be had for a short ride of not over two hours for 3 pesetas ; over two hours, 4 pes. ; for the whole day, 1½\$.

Named rides : La Esperanza, Tejina, Valle de Guerra, Cruz de Afur, Santa Cruz, all 1\$: Agua García, Cruz de Taganana, 1½\$; Taganana and back, 2\$; Arafo and Güimar, single, 2½\$; returning next day, 4\$; Lighthouse and back, 2 days, 4\$.

Carriages with three horses : To Tegueste, 6s. ; Tejina, 8s. ; Las Mercedes, 6s. ; Santa Cruz, 8s. ; Güimar, 20s. ; Tacoronte, 6s. ; Matanza, 8s. ; Villa Orotava, 16s. ; Puerto Orotava, 20s. : Icod (single), 40s.

Carriage with two horses for moderate distances at about three-quarters the above prices.

Prices in Puerto Orotava :—*Hammocks*, 2 pesetas an hr. or extra if taken into the hills.

Horses :—Short ride up to 2 hrs., 3—4 pes. ; over two hrs., 4—5 pes. ; Short day inside valley, 6—8 pes. ; per wk., for half the day, 20—25 pes. ; per wk., whole day, 35 pes. ; per mnth., 25—30 pes. Expeditions including man and horse, per day, 2\$ or for a mule 1½\$.

Named rides :—Sta. Ursula, San Juan de la Rambla, 5 pes. ; Florida, 7 pes. ; Matanza, Fuente de la Cruz, Agua Manza, 8 pes. ; Agua García, Icod de los Vinos, 10 pes. ; returning from Icod next day *viâ* Icod el Alto, 17½ pes., or *viâ* la Corona, 20 pes. ; Icod el Alto and la Corona, 7½ pes. ; Laguna, 12 pes. ; Pedro Gil, Mña. Blanca, Las Cañadas, Güimar, Santa Cruz, 15 pes. ; The Peak, Vilaflor, or Güimar and back next day, 20 pes. ; Vilaflor and back next day, 30 pes.

Horses hired by the month are at the responsibility of the hirer unless otherwise arranged. Owners expect 1\$ extra when their horses are used in the Sortíja.

Doukeys : Up to 2 hrs., 2 pes. ; over 2 hrs., 2½ pes. ; whole day, 4 pes. ; by the wk., 24 pes. ; by the mnth., 75 pes.

Guides : To the Cañadas, 10 pes. ; to the Peak 20 pes.

Carriages to hold 5 persons ; To the Villa or Realejo, 7½ pes. ; Rambla de Castro, 2\$; Barranco Ruiz, 2½\$; San Juan de la Rambla, 3\$; Icod, 5\$; Sta. Ursula, 2\$; Victoria, 2½\$; Matanza, 3\$; Tacoronte, 4\$; La Laguna, 5\$; Santa Cruz, 6\$.

Prices of horses or mules in Icod : To Garachico, to the lava stream beyond La Culata and similar districts, 3 pes. ; to the Pinar or pine-forest, or Buena Vista, 1\$; La Guancha, 5s. ; the Fortaleza, 8s. ; per day for excursions, from 4s. to 6s., according to roads and time taken, etc.

Of carriages : To Buen Paso, 5s. ; S. Juan de la Rambla, 8s. ; Realejo, 10s. ; Puerto or Villa Orotava, 16s.

Prices in Güimar : Mules, 2 to 3 hrs., ½\$; 4 to 6 hrs., 1\$; to Orotava, \$2.

For Public Coaches *see next page.*



SANTA CRUZ

TENERIFE.

Bº Barranco (Ravine). Pinar Pine Forest.
P. Puerto. F. Fuente.
Pt. Punta. R. Roque.
M. Montaña. Carretera.
+ Ermitea. Camino.
Alturas en Pies Ingleses. (Ft.)

Eng. Stat. Miles.
0 1 2 3 4 5 10 15
Kilometres.
0 1 2 3 4 5 10 15 20

Specially prepared for
Brown's "Madeira and
the Canary Islands."
1894.

LAS CAÑADAS

cerca, 200,000 de natural.

Eng. Stat. Miles.
0 1 2 3 4
Kilometres.
0 1 2 3 4

| Kilos. | Miles. | | A.M. | P.M. | PRICES. | | | A.M. | P.M. | |
|--------|--------|--------------------------------|-------|-------|-----------------------------|----------------------|----------------------------|-------|-------|---|
| | | | | | In-side. pes. c. pes. c. | Out-side. pes. c. | | | | |
| 9 | 5½ | Santa Cruz, Lower Town... | 6.30 | 2.15 | | | Puerto Orotava | 6.0 | 1.30 | These times are from 1st October to 31st March. During the Summer they are somewhat earlier. The hours are in any case rather unreliable, as is the case with every fixed time in this country. Only one set of prices is given. Fuller details are obtainable at the office. |
| 19 | 12 | Ditto Plaza Weyler... | 8.30 | 2.30 | | | Villa do. | 6.45 | 2.30 | |
| 23 | 14½ | La Laguna ... | 9.30 | 4.30 | 1.25 | 1.0 | Ramal | 7.0 | 3.15 | |
| 24½ | 15½ | Tacoronte ... | 9.55 | 5.45 | 2.25 | 2.25 | Sta. Ursula | 7.30 | 4.15 | |
| 28 | 17½ | Sauzal ... | 10.15 | 6.15 | 2.50 | 2.50 | Victoria | 8.15 | 4.45 | |
| 32 | 20 | Matanza ... | 10.45 | 6.45 | 2.75 | 2.75 | Matanza | 9.0 | 5.30 | |
| 37 | 23 | Victoria ... | 11.10 | 7.15 | 3.0 | 3.0 | Sauzal | 9.30 | 6.0 | |
| 38½ | 24 | Sta. Ursula ... | 11.40 | 8.5 | 3.50 | 3.50 | Tacoronte | 9.45 | 7.0 | |
| 42 | 26 | Junction or Ramal ... | 12.15 | 8.40 | 4.50 | 3.0 | La Laguna | 11.0 | | |
| 45½ | 28½ | Villa Orotava ... | 12.30 | 9.0 | 5.25 | 3.50 | Sta. Cruz, Plaza de Weyler | 12.0 | 8.30 | |
| 53 | 33 | Puerto do. | P.M. | P.M. | Prices | | | A.M. | A.M. | This part of the journey has been purposely separated from the rest, as though the Coaches ought to meet those ascending and descending from the Villa to the Puerto, no reliance can be placed on their doing so. The Coach leaving Icod at 3.30 a.m., and Orotava at 8 p.m., only carries the mails and five passengers. Of little use to visitors. |
| 63 | 39½ | Ramal, or J'ction of the Villa | 2.0 | 8.0 | | | Icod | 3.30 | 9.0 | |
| | | Realejo... | 3.15 | 9.15 | 1.0 | | Rambla | 5.0 | 10.15 | |
| | | Rambia ... | 4.15 | 10.15 | 2.25 | | Realejo | 6.0 | 11.15 | |
| | | Icod ... | 5.30 | 11.30 | 3.25 | | Ramal | 7.0 | 12.30 | |
| | | | A.M. | P.M. | | | | A.M. | P.M. | |
| | | Puerto Orotava ... | 6.0 | 1.30 | | | Ramal de la Villa | 11.15 | 8.30 | |
| | | Ramal de la Villa | 7.0 | 2.30 | 1.0 | | Puerto Orotava | 12.45 | 9.0 | |
| | | | A.M. | P.M. | | | | A.M. | A.M. | |
| 5½ | 3½ | Santa Cruz ... | 9.0 | 3.0 | | | La Laguna | 9.0 | 11.0 | |
| | | La Laguna ... | 11.0 | 5.0 | 1.25 | | Sta. Cruz | 10.0 | 12.0 | In addition to the through Coaches, there are special Coaches in the Summer. |
| | | | P.M. | | | | | A.M. | | |
| | | Sta. Cruz, Plaza de Weyler | 3.15 | | | | Güimar | 5.0 | | |
| | | San Isidro ... | 4.45 | | 1.25 | | Arafo | 5.45 | | |
| | | Iguete ... | 6.0 | | 2.50 | | Candelaria | 6.40 | | |
| | | Candelaria ... | 6.30 | | 2.50 | | Iguete | 7.20 | | |
| | | Arafo ... | 7.15 | | 3.0 | | San Isidro | 8.50 | | |
| | | Güimar... | 7.45 | | * 3.50 | | Sta. Cruz, Plaza de Weyler | 10.0 | | |

* Owing to competition the actual fare to Güimar is 1p. 25c. This is probably temporary.

GRAND CANARY.

THE island was formerly known as Canaria and obtained its present name of Gran Canaria because of the heroic defence made by the aboriginals, who called themselves Canarios. Some connection has been inferred between this name and a supposed breed of large dogs, of which a pair are referred to by Pliny as having been presented to King Juba II, of Mauritania.

It is situated between lat. $27^{\circ} 44'$ to $28^{\circ} 12'$ N. and long. $15^{\circ} 21'$ to $15^{\circ} 50'$ W. of Greenwich, is $34\frac{1}{2}$ m. (55 kils.) long by $29\frac{1}{2}$ m. (47 kils.) broad and covers an area of 634 sq. m. (1623 sq. kils). There are 95,415 inhabitants spread over 3 cities, 3 towns, and 178 villages or hamlets which are divided into 22 districts and its geographical position is E. S. E. of Teneriffe and W. S. W. of Fuerteventura.

The form of the island is nearly circular and greatly resembles a saucer-full of mud turned upside, with the sides eaten into long and deep ravines by the overflow from the little basin at the top, of which the highest point is a swelling upland known as the Pico del Pozo de las Nieves, 6,400 ft.

Of the ravines the Bco. de Tejeda is the greatest and is indeed so large that, as seen from Granadilla in Teneriffe, it seems to split the island in two. Other large Barrancos are those known as the Bco. de Tirajana, de Fatarga, de la Virgen, etc.

The ravines and watercourses of all the islands greatly resemble one another. Whether they commenced their existence as volcanic fissures or are entirely due to denudation is a question of minor interest. On the S.E. coast of Grand Canary there is however a long plain, stretching from below Agüimes to Arguineguin and consisting of the debris washed down from the hills, which terminate abruptly at some distance from the sea. The formation is so different to that found elsewhere and the cleavage of the rocks so marked and so wide-spread, that the curiosity of all who pass cannot fail to be excited. As far as the writer's very cursory examination indicated, the centre of disturbance would probably be found in the Bco. de Tirajana but there are outcrops of cinders in other places which are not immediately noticeable, as they have been reduced to the level of their surroundings, apparently by the action of the sea.

There are many places where the crust of the island has been penetrated by volcanoes. Amongst these that known as the Caldera de Bandama near Tafira can be easily visited.

The rim of the crater was never broken by the lava and is now a great cup of which the bottom has subsided to a level floor, leaving the walls exposed to sight.

That part of the island known as the *Isleta* is of more recent creation than the mainland. The isthmus by which the two are connected is formed of sand, drifted across from the African coast by the action of the wind and tide. A similar growth of sand is to be seen at *Maspalomas*.

The length of the *Barrancos* is much greater than is the case in *Teneriffe* and a great part of the water, which gradually filters from the *Cumbres*, is caught up and carried on to the land. The quantity of water available might be largely increased by the planting of forests. The island, however, is better off as regards water than either *Teneriffe* or *La Palma* although the climate is undoubtedly drier. A good deal of energy has been shown in the construction of tanks, without which cultivation during the summer months would often be impossible.

There are several mineral springs, notably those at *Firgas*, *Agæte* and *Santa Catalina*.

Beyond the *Pinar* between *Tejeda* and *Tirajana* and the woods in the upper part of the *Bco. de la Virgen* there are few trees, in fact the destruction of forest land has been so reckless that there is nothing left from which charcoal can be made and all that is used has to be imported. The pine, the laurel and the heather will grow as well as elsewhere but, unfortunately, only the eucalyptus is planted, if one excepts the *escobón*, a species of broom from which faggots can be cut about five years after the seeds are put into the ground. The various euphorbias, etc., are, of course, well represented and the chestnut, fig, olive, almond, vine and orange thrive luxuriantly.

Cochineal is still cultivated to a certain extent but the tomato, banana, potato, sugar-cane, maize and other cereals are now the principal crops. The oranges are particularly fine.

The history of the island prior to the arrival of the Spaniards has been sufficiently entered into elsewhere. It only remains to add that the most perfect examples of ancient caves and dwelling places are to be found in *Grand Canary*.

The modern history is chiefly commercial. As a coaling station and as a business centre, *Las Palmas* has made enormous strides during the last few years.

The customs of the *Canarios* of to-day call for no special remark. The only peculiarities in their dress are the white shawls worn by the women, which have a somewhat Moorish appearance, and the *mantas* worn by the men, which, instead

of being made of English blankets as is the case in Teneriffe and La Palma, are woven by the women from wool grown in the island. The black stripe is the natural colour of the wool.

The villages and towns are very plainly built and are far from picturesque. There are however some handsome houses in Las Palmas built of blue stone (lava basalt). Of this stone there are several quarries, notably one at Atalaya, and the art of stone cutting is far more advanced in Canary than elsewhere in the archipelago.

The special local industries are embroidery, native tanned goat-skins, rough red pottery, drip-stone filters, coarsely woven cloths and very handsome knives with ornamented handles.

Palm leaves are used for making a number of articles, for instance the *seron* in which manure, etc., is placed when carried on horse-back. The ordinary pay for climbing and trimming a palm-tree is 5 cuartos ($1\frac{1}{2}$ d.) and an expert, who climbs by the help of a cord encircling the tree and the waist, is said to trim as many as twenty in an hour.

A speciality of Grand Canary is a cheese known as Flor de Canaria. The milk is curdled by means of the flower of the *cardo*, a wild artichoke with a handsome thistle-like blue flower, of which the leaves can be scraped and eaten like a vegetable.

The chief port is the Puerto de la Luz, $3\frac{1}{2}$ m. ($5\frac{1}{2}$ kils.) from Las Palmas with which it is connected by a steam tramway. The port at Agaete is only used by schooners and that at Punta de Gando has been sacrificed to the Lazareto.

There are several good roads which radiate from Las Palmas as a centre and connect it with Telde and Agüimes on the South; San Mateo on the S.W. and Arucas, Guía and Agaete on the W. The last road has a branch to Teror and another branch is being made to Moya with a subsidiary branch leading to Firgas. It is intended to continue the S. road from Agüimes to Tirajana and probably farther later on.

Those stopping at Grand Canary for a few hours will do best by driving to the *Monte* 10 m. (16 kils.) about 3 hrs. there and back (fare 12s. to 14s. for a carriage with five people), or to the *Gran Caldera* 12 m. (19 kils.) about 5 hrs. including an hour to visit the Caldera and Atalaya, fare 14s. to 16s.; or on to *San Mateo* 17 m. ($26\frac{1}{2}$ kils.), about $6\frac{1}{2}$ hrs., fare 18s. to 20s.; or by the S. road to *Telde* 12 m. (19 kils.), about 4 hours, fare 12s. to 14s.; or past Tamaraceite to *Teror* 13 m. ($20\frac{1}{2}$ kils.), about 5 hrs., fare 18s. to 20s.

All the above fares and times are return from the Puerto de la Luz not from Las Palmas. For communication with Las Palmas and sights in the city, see elsewhere.

By those stopping longer the above drives can be extended. Full details are given in the proper places.

Owing to the want of good accommodation in most parts of Grand Canary it is more difficult to explore the island than it should be. There is however a new English hotel in the Monte and some of the native inns are fairly good, but a little more enterprise is wanted before the latter can hope to secure a very large custom.

The two strategic points from which a good idea of the island can be quickly secured are the summit of the Pico de los Osorios near Teror and of the Pico de Bandama in the Monte.

The prettiest road is that leading up to San Mateo. Taking the MONTE as a centre the best excursions from here are:—to the *Gran Caldera* and *Atalaya* or across to *Teror*, *Firgas*, *Moya* and *Guia*. On the last journey the best halting place is Firgas.

Taking SAN MATEO as a centre, where an hotel is badly wanted, the best excursions are:—to the *Cumbres* on a clear day, taking care not to omit the view of the *Bco. de Tejeda* from above, one of the most magnificent sights in the islands; to *Tirajana* *viâ* the Cumbres and back to Las Palmas *viâ* *Agüimes* (no inn) or *viâ* *Tejeda* (beds); or to *Agaete* or *Guia* (inns) across the upper part of the *Bco. de la Virgen*.

It is also possible to make a centre of FIRGAS in the neighbourhood of which there is some very fine scenery, or of AGAETE if one is not too particular. TEROR also offers many attractions but an inn is wanted. GUIA is rather a climatic resort than a centre for exploring the country.

It is not impossible that at some future time Agaete will be the leading health resort of Grand Canary.

The country between it and Artenara or San Mateo is often charming but very mountainous, which is the case with that lying between Tejeda and Mogan. The *Bco. de Fatarga* and the upper part of the *Bco. de Tirajana* are both beautiful but the accommodation is either *nil* or is villanous. The villages on the S. swarm with fleas and flies to such an extent that life is only endurable under canvas.

For a short run over the island the following is recommended. Drive to San Mateo and back to the Monte. See the *Gran Caldera* and *Atalaya* in the afternoon and sleep at the Monte (1 day). Engage mules and ride to Firgas, taking Teror and the top of Mña de los Osorios on the way (2 days). Ride past Moya and Los Tilos to Guia (3 days). Rest and drive over to Agaete and back (4 days). Return by coach or carriage to Las Palmas (5 days). Drive to Telde and the Mña de las Cuatro Puertas (6 days). If desired an early start can be made from the Monte and the Cumbres be visited from San Mateo,

returning to the Monte in the evening, thus adding one day to the tour, or it can be reduced to 5 days by omitting Agaete.

Accommodation can be booked by telegram as far as 'Telde or Guia. Wires are not laid elsewhere.

Puerto de la Luz is a harbour formed by the *Isleta* on the N., the Isthmus of Guanarteme on the W. and two unfinished moles, in course of construction. The eastern or principal of these measures over 1,000 yards. The southern or less important is little more than commenced.

Houses are rapidly rising in the neighbourhood of the harbour, which bids fair to cover the whole of the isthmus and eventually effect a junction with Las Palmas. This consummation might be more rapidly effected were the sandy wastes between conquered and kept in order by plantations of silver wattle and Port Jackson willows as has been done on the Flats near Cape Town.

All passengers are landed on the mole and all ships are met by the hotel agents.

The *port charges* are each passenger each way, day or night, one peseta, but no boat for less than 3 pes. 75 c. Each trunk, one peseta, but it takes two small portmanteaus or three or four hand bags to make a trunk.

There are no *customs duties* on passengers' luggage but cases are opened at the *fielato* on the mole and, when the quantity is large, a declaration must be made and a ticket taken at the same place. Otherwise the guardian at the *fielato* opposite the Santa Catalina Hotel may refuse to let the carro pass.

Conveyances to Las Palmas are.—*Private carriages* to hold five or six persons, one dollar.—*Tartanas* (two wheeled dog-carts) to hold up to four or five, 2 pesetas and 1 peseta an hour if kept waiting. If the *Tartanas* pick a passenger up *en route* the fare is 25 centimos but they are free to pick up as many as can get in;—*Steam tramway* running about every half-hour. Fares from 15 c. third to 35 c. first class.

The distance from the harbour to the city is about $3\frac{1}{2}$ m. ($5\frac{1}{2}$ kils.) and the above fares are for the single journey only.

LAS PALMAS, 20,756 inhabitants, and the seat of a Bishopric, is situated on the N.E. of Grand Canary, 53 m. (85 kils.) by sea from Santa Cruz de Tenerife.

HOTELS.—*On the road between the Port and the City.*—The Santa Catalina Hotel, built by an English Company, stands in its own grounds with a fine sea view, 8/- to 12/- a day; the Metropole, also newly built, well situated on the sea shore, with gardens and a good glazed patio, same charges. *Inside the Town.*—Quiney's English Hotel, old-established with garden and facing open square, 6/- to 10/- a day; the Cuatro Naciones, facing the Alameda, same charges.

Newspapers.—El Diario de Avisos, El Telégrafo, La Patria.

For advertisements see pages 39 to 48, and 50 to 51.

Public Buildings.—*The Town Hall (Municipio)*, at the top of the Plaza Sta Ana and facing the Cathedral.

On the first floor is the *Public Library* open every day from 11 till 3, with some 4,000 vols., and a good collection of historical works including some in MSS by the director D. Pablo Padilla.

On the second floor is the *Museum*, the largest in the islands and rich in remains of the aboriginals, with a fair collection of objects of natural history. Nominally open on Thursdays and Sundays from 12 till 3. If closed the key can be obtained of the porter at the municipio or at the house of the director, Dr. Chil y Naranjo, Calle del Colegio. The contents are not catalogued and are imperfectly arranged.

Some help is afforded by the colour of the labels affixed to the specimens. Objects marked with a Green ticket come from Grand Canary; Red from Tenerife; Blue, La Palma; Yellow, Fuerteventura; Cream, Lanzarote; Rose, Hierro; Violet, Gomera; White, foreign to the islands. This arrangement is only partially carried out and the colour has faded out of a good many labels.

Room No. 1.—Amongst a considerable collection of pottery should be noted the "*Pintaderas*" or earthen dies which were used for stamping patterns on the skin, on leather, etc. The ornaments, tools and implements made from bone, shells, stone, etc., will also be remarked. Amongst the specimens of leather work are some wonderful examples of sewing.

The Geological collection in the next room is badly grouped and badly sorted.

Room No. 2.—The Insects and Crustaceans are well arranged but the land and sea shells are mixed together. The fish would repay more attention. The "*manía*" or devil-fish which is said to embrace its victims and carry them away under water is not uncommon round the Canaries.

Room No. 3.—The Anthropological Department is by far the richest and best arranged and contains the best collection of Canary Island mummies in the world. Printed measurements of the skulls, etc., will be found hanging on the walls.

The *Law Courts* in the disused convent of San Augustin (with plain chapel adjoining). *Hospital* where a torno or receptacle for foundlings is still used. *Market buildings.* *Opera House*, a large building well designed and with a good interior.

CHURCHES.—*The Cathedral*, a large heavy building with an imposing façade commenced early in the 16th century but still unfinished. The interior is high but sombre and far from pleasing. A *porta-paz* in silver-gilt by Benvenuto Cellini may be seen by special order to be obtained from the President of the Cathedral. There are the usual vestments and church plate which is shown in return for a small fee. *San Francisco* in the Alameda, an old church with a curious and irregular interior; *del Seminario*, with some curious masked galleries. The south altar-piece is supported by four columns which are very fine pieces of wood-carving indeed; *San Telmo*, *Santo Domingo*, *San Antonio*, *San José*, by the same architect as the cathedral; *San Antonio Abad*, the oldest church in the island, where Columbus attended mass in 1492 before setting out for America.

The *English Church* is a substantial and well designed stone building about $1\frac{1}{2}$ m. along the Port Road.

Clubs.—*The Casino* (Spanish), in the Alameda, admits monthly members. *The Golf Club* with links above and behind the Santa Catalina Hotel. The links are 2 miles round with 11 holes and are kept in very fair order. A monthly championship meeting is held, the prize being a medal presented to the club by Mr. John Forman. Subscriptions:—Annual, 21s.; six months, 15s.; three months, 10s. 6d.; one month, 5s. Ladies half price.

Squares.—*Plaza de Santa Ana* between the Cathedral and the Municipio; the *Alameda*, where the band plays, well planted with trees and laid out in flower beds, occupying the site formerly occupied by the Convento de Santa Clara, and ornamented with busts of Columbus and of Bartolomé Cairasco de Figueroa, a native poet, 1540—1610. This is the favourite rendezvous of an evening; *el Parque*, a garden near the mole—*Plaza de la Feria* with bull-ring. The *Mole* which was to have been greatly extended but failed to stand against the sea.

Las Palmas is a town of flat roofs and low houses, from which the cathedral and the new theatre rise conspicuously and in a manner somewhat opposed to its generally oriental appearance. It is slightly above the level of the sea, faces east and mosquito curtains should be used all the year round. On the west it is protected by hills, but the heat is always tempered by a breeze from the N.E., to which the stretch of sand connecting the town with Puerto de la Luz and the Isleta offers no obstacle. The country in the immediate neighbourhood is dry but an ample supply of water is obtained from the mountains by means of small stone channels. Drinking water is laid on

in the city and down to the port by iron pipes, communicating with the Fuente Morales, a spring some distance above the town, in such a manner that contamination is prevented. A supply is laid on to the Hotels and larger houses directly from the main.

The principal street is the Triana, a continuation of the road from the port, where the largest shops are situated. The fashionable part of the town is the Santo Espiritu where some of the houses are handsomely designed and constructed.

The temperature on the sea level during the autumn is sometimes high, but visitors do remain at times all through the hot months, although the season for invalids does not really commence until October or November. The climate in the hills, however, is most delightful, and it is to be hoped that suitable accommodation in several places, as well as in the Monte, will soon be supplied.

The public gardens and squares are provided with seats where a pleasant hour or two may be passed occasionally. A walk on the mole during the middle of the day is also enjoyable, both on account of the refreshing breeze and the life and movement when the native schooners are being unloaded.

The arid slopes behind the town give a very misleading idea of the interior of the island, many parts of which are green and well watered.

Drives, Walks and Excursions near the town.—The drives have been mentioned under Puerto de la Luz with the view of allowing those who have little time to make their plans without unnecessary trouble. All the short drives round Las Palmas are there named. The prices from the town or the hotels outside it are given with the other prices at the end of the section referring to Grand Canary. If it is desired to go farther afield reference should be made to the pages devoted to the particular road selected. A time table of the public coaches and their fares is given.

There are a few walks at the back of the town which can be made by following any turning out of one of the carreteras. As good a walk as any is to leave the Guia road and turn to the right, keeping along by the back of the golf links, descend on to the sandflats where cricket is sometimes played and join the carretera between the town and the port. It is not very attractive.

To the Puerto de la Luz, Confital Bay, the Isleta and the Lighthouse.—The methods of reaching the Puerto are detailed under the space allotted to the Puerto itself.

The road is generally too dusty to form a favourite promen-

ade but the sands between the town and Santa Catalina are very agreeable.

About a mile out of the town the Santa Catalina and Metropole Hotels and the English church is passed. A few paces farther on is the *Santa Catalina bathing establishment* with 10 baths charge 1 peseta. The spring is situated between the road and the sea and the temperature of the water is some 10° warmer than the latter. The analysis shows that one kilogramme of water contains

| | | | |
|--------------------|-----|---------|-------|
| Chloride of Sodium | ... | grammes | 6.049 |
| „ „ Potassium | ... | „ | 0.108 |
| „ „ Calcium | ... | „ | 0.281 |
| Bicarb „ Lime | ... | .. | 0.147 |
| „ „ Magnesia | ... | „ | 1.157 |
| Sulphate of „ | ... | „ | 0.870 |
| Silicate | ... | „ | 0.108 |
| Free Carbonic Acid | ... | „ | 1.004 |

Just behind the houses of the Puerto are the dismantled remains of a *Canario burial ground* which appears to have caused the Isleta to be regarded by the natives as a spot of peculiar sanctity in somewhat the same way as was the case formerly with the Isle of Anglesea.

By bearing to the left at the entrance to the Isleta *Confital Bay* is reached in a little over a mile. The rocks are a favourite hunting ground for shells and sea-weeds and are a pleasant spot for a picnic. A little beyond are the saltpans.

A road along which carriages can pass leads across the Isleta to the *Lighthouse (Faro)* in about 2 hrs. The lanterns can be seen and the summit commands a very fine view of the N. of the island. Paths lead out of the road to the signal station and the letters of the colossal advertisement of the Grand Canary Engineering Co. can be visited and measured by those who feel curious.

MAIN ROAD, NORTH SIDE OF THE ISLAND. — *Tamaraceite (Teror), Arucas (Firgas, Moya), Bañadero, Guia, Galdar and Agaete, with excursions from the same. (For Public Coaches see page 176.)*

The road leaves the mole and ascends the barranco, leaving the fort on the left. At 1 m. Messrs. Miller & Co.'s cigar factory is passed on the left. The country is dry but there are several tanks and a great part of it is under cultivation. Mounting the hills to the right, 650 ft., a descent is made to *Tamaraceite*, 580 ft., $4\frac{1}{2}$ m. ($7\frac{1}{2}$ kils.).

From here a path leads in about $1\frac{1}{2}$ hrs. by *San Lorenzo*, the Vega de Abajo and the Bco. del Dragonal to *Tafira* and the *Monte*.

A little farther on a branch of the carretera to the left leads to the bridge just below.

TEROR, 13 m. ($20\frac{1}{2}$ kils.) 1750 ft., 4,125 inhabs. Small inn, 3s. a day.

Teror is a large village situated in the midst of an attractive valley. In the Barranco de la Fuente Agria, a few minutes below the houses, are some mineral springs dedicated to Our Lady of Lourdes where there is a bathing establishment with 4 baths. charge 25 centimos.

The *Church* (N.S. del Pino), A.D. 1740, is the chief object of interest in the village. The *exterior* is good of its kind. The tower to the left is a part of the old church, now pulled down, and almost the only good example of Gothic renaissance in the whole island. The church is dedicated to the Virgen del Pino who is said to have appeared in the branches of a pine tree which once stood on the spot in the square in front of the church now marked by a cross. The pine tree close by is said to be a direct descendent of the original pine. Formerly there was a holy spring on the spot of which the waters are said to have been very efficacious. It was however proposed that it should be sold and it dried up in consequence. The *interior* is handsome and the group of five altars at the chancel end cannot fail to attract attention. The church was very wealthy before the confiscation of ecclesiastical property by the State and the robes and jewels, many of which are very valuable, are well worth seeing. The image of the Holy Virgin is upstairs above the chancel and stands in a large shrine of beaten silver. The picture of St. Joseph and Child opposite the shrine is above the ordinary standard of art to be seen in the Canaries.

The *Bishop's Palace*, formerly a convent, stands behind the church and is of no particular interest.

The *Convent*, some $\frac{1}{4}$ mile on the way to Firgas, is occupied by about 25 to 30 nuns. The church is plain and without merit.

Walks and Excursions from Teror.—A most beautiful walk is to the woods of *Los Osorios*, 2,480 ft., $\frac{1}{2}$ hr., where there is a spring. This is a good spot for a picnic and from it the *Pico de los Osorios*, 3,250 ft., can be ascended in about $\frac{3}{4}$ hr. and the walk can be continued to *Firgas*, $1\frac{3}{4}$ hrs., see *Firgas*. The Pico commands a marvellous view which stretches from the Mña de Galdar on the N.W. to the Pico de Bandama on the S.E.

To *Santa Brigida and the Monte via the Vega del Centro*, $2\frac{1}{4}$ hrs., see *Excursion from the Monte*.

To *Valleseco*, 3,150 ft., 1 hr. and the *Cumbres (Cruz de Tejeda)* $4\frac{1}{2}$ hrs. is a pretty excursion. Valleseco is an uninteresting group of houses where a large church is being built. No inn but beds possible. For continuation to *Tejeda*, *Tirajana*, etc. see elsewhere.

To *Firgas*, $1\frac{3}{4}$ hrs., *Moya*, 3 hrs, *Mña de Doramas*, *los Tilos*, 4 hrs. and *Guia*, $6\frac{1}{4}$ hrs., see *Guia*.

To *Artenara via Valleseco*, etc., about 4 hrs., whence on to *Tejeda* about $5\frac{1}{2}$ hrs. or down to *Agæte* about 8 hrs. total. All fine but tiring excursions.

To *San Mateo via the Vega de Arriba*, about $3\frac{1}{2}$ hrs. Not so fine as to *Sta Brigida via the Vega del Centro*.

To *Tafira via the carretera to Tamaraceite and through San Lorenzo*, about 2 hrs. The easiest road to the *Monte* but only picturesque when the Bco. del Dragon below *Tafira* is reached. This is known as the route by the *Vega de Abajo*.

To *Arucas*, about $2\frac{1}{2}$ hrs. (Mules in Teror from 4 to 5 pes. a day.)

MAIN ROAD.—After passing the junction for Teror the carretera is carried through a tunnel, $6\frac{1}{4}$ m. (10 kils.), passes the little village of *Tenoya* and descends into the picturesque

barranco of the same name. This is perhaps the most beautiful part of the whole of the N. road. A long climb then leads to

ARUCAS, 770 ft., 7,902 inhab., $10\frac{1}{2}$ m. (17 kils.) Small inn, 4 beds. One dollar a day.

Arucas is a fairly large town with a market place and is the chief centre of the cochineal and sugar industry. There are two sugar mills which may be seen and several large quarries. The mountain, $\frac{3}{4}$ hr. to the N. of the town, commands a good view but the neighbouring country is as uninteresting as the town itself.

EXCURSIONS FROM ARUCAS. To *Teror* by the bridle path, $2\frac{1}{2}$ hrs. The country passed through is pleasant and the scenery improves towards the end. See *Teror*. A return can be made *via* *Firgas* or the *Mña de los Osorios* can be ascended. Mules for the round in Arucas should cost from 3 to 4 pesetas.

Branch carretera to Firgas and Moya.—An unfinished carriage road leaves the main road at Arucas and bears to the left. At $14\frac{1}{2}$ m. (23 kils.) a subsidiary road $1\frac{1}{2}$ m. ($2\frac{1}{2}$ kils.) long will lead to *Firgas* when completed. At present this part must be passed on mules or on foot. The main *Moya* branch descends from the junction into the bed of the *Barranco Azuaje*, $15\frac{1}{2}$ m. (24 $\frac{1}{2}$ kils.) some two or three hundred yards below the bathing establishment. From here it will be carried on to *Moya*, $18\frac{1}{2}$ m. (29 $\frac{1}{2}$ kils.).

Firgas, 1625 ft., is a prettily situated village and a good centre for excursions or for a summer residence.

Inns.—Fonda Azuaje; Fonda de Firgas; charges one dollar a day.

The village is best known as the site of a mineral spring which affords a wholesome and palatable drinking water. The spring however is really some half-hour up the barranco.

Analysis shows that a gallon of water contains

| | | | |
|-----------|------------|------|--------|
| Calcium | Carbonate, | 12.6 | grains |
| Magnesium | „ | 11.2 | „ |
| Sodium | „ | 1.5 | „ |
| „ | Sulphate | 1.2 | „ |
| „ | Chloride | 5.0 | „ |

In the same barranco but immediately below the town is the warm spring known as the Fuente de Guadalupe. A steep path leads to the bathing establishment 760 ft. in $\frac{1}{2}$ hr. 2 baths; Charge: morning, 1 peseta; afternoon, 75 c. Temperature 85° F. An analysis shows that 1 kilogramme of water contains

| | | |
|--------------------|-------|---------|
| Chloride of Sodium | 0.116 | grammes |
| Bicarb „ Soda | 0.797 | „ |
| „ „ Potash | 0.020 | „ |
| „ „ Lime | 0.422 | „ |
| „ „ Magnesia | 0.265 | „ |
| Sulphate „ „ | 0.107 | „ |
| Silicate | 0.118 | „ |
| Free Carbonic Acid | 1.058 | „ |

EXCURSIONS FROM FIRGAS.—To *los Osorios*, *Teror*, the *Monte*, etc.—*Teror* can be reached by a path which leads below the Pico de los Osorios, but the usual route and by far the most attractive one is that which strikes almost due S. This leads in one steady climb to the Pico de la Laguna, as the southern spur of the Pico de los Osorios is called. The cumbre of this, 2,800 ft., is reached in $1\frac{1}{4}$ hrs. and commands fine views. Visitors however

should make time to go to the top of the *Pico de los Osorios* itself 3,250 ft., twenty minutes away from the path, whence there is a magnificent bird's eye view of nearly the whole of the N. of the island. The *Mña de Doramas* is best seen from here, the *Cumbres* seem to lie close at hand, *Teror* is just below with *Valleseco* a short distance above it, and the *Mña de Galdar* and the *Pico de Bandama* form land marks on either horizon.

A return can be made to the path and a descent made directly into *Teror*, $1\frac{3}{4}$ hrs. from *Firgas*, not allowing for the above digression, or *Teror* can be reached from the *Pico* via the avenue of pine trees and the *chestnut woods of los Osorios* be taken on the way. The difference in time is not great.

From *Teror* to the *Monte*, $2\frac{1}{4}$ hrs., see *Monte*. For *Teror* etc. see *Teror*. Most of the paths in this district are very muddy in wet weather.

To *Moya for los Tilos*, *Guia*, etc.—The same path that leads to the bathing establishment crosses the bed of the *Bco. Azuaje*, $\frac{1}{2}$ hr., 760 ft. and ascends to *Moya* $1\frac{1}{4}$ hrs. To *Los Tilos*, $2\frac{1}{4}$ hrs., *Guia*, $4\frac{1}{2}$ hrs., see *Guia*.

Besides the above excursions there are a number of beautiful walks in the *Bco. de la Virgen* as the upper part of the *Bco. Azuaje* is called.

Mules in *Firgas* cost from 3 to 5 pesetas a day.

Moya, 1530 ft., no inn, is a small village on the precipitous edge of the barranco. It is neither so pleasant nor so good a centre for walks as *Firgas*.

A descent can be made from *Moya* to *Pagador* near *Bañadero* by bridle road in $\frac{3}{4}$ hr.

Firgas can be reached in $1\frac{1}{4}$ hrs, *Teror* in 3 hrs. and the *Monte* in $5\frac{1}{2}$, or *los Tilos* in 1 hr., and *Guia* in $3\frac{1}{4}$ hrs. Refer elsewhere. When the road to *Moya* is finished it will be the nearest spot from which *los Tilos* or the *Mña de Doramas* can be visited.

The *Mña de Doramas* is a wooded mountain covering an extensive tract of country and affording many spots suitable for picnics. The path up from *Moya* to *San Fernando* 1 hr. and the *Finca Corvo* $1\frac{1}{2}$ hrs. is easy to find.

From *Arucas* the main road winds down to the coast, and passes the seaside villages of *Bañadero* (14 m. = $22\frac{1}{2}$ kils.) and *Pagador* a mile farther on, both uninteresting and dirty. Keeping close to the sea for a mile or two, a long ascent is commenced amidst wild and rocky surroundings. At 20 m. (32 kils.) a deep cutting, called the *Roque del Moro*, immediately below some caves formerly occupied by the *Canarios*. The side of the mountain is known as the *Cuesta de Silva*. The caves may be easily reached from the road and are well worthy of a visit. A guide should be procured and torches and candles taken.

The number of caves is said to be 364 and to correspond with the number of days in the year. This may be a coincidence or an untruth as the writer has never counted them.

Shortly after passing the caves the top of the hill (750 ft.) is reached and the wide slopes of *Guia* and *Galdar* lie stretched in front. To the right is the great mountain of *Galdar*, a monstrous mass of volcanic mud, of which, indeed, the whole of this corner of the island is composed with the exception of the mountain to the west of *Galdar*.

Guia, 580 ft. (22 m. 36 kils.) 5,065 inhabitants. Fonda Francisco Artiles, fairly good, rooms large. Charges to English visitors, 6 to 10 pesetas; to Spanish, 3 to 4 pesetas.

Guia presents little of interest but makes a change for those staying in Las Palmas who want to get a little more away from the sea. The church is large but plain.

The soil is fertile and well irrigated. Sugar is now largely cultivated and one of the best mills in the island is situated half-way between the town and Gáldar.

EXCURSIONS FROM GUIA.—*To Agaete*.—A tiresome ride leads across the slope and joins the main road a little before *Agaete*, $1\frac{1}{2}$ hrs.

To Los Tilos, Mña de Doramas, Moya, Firgas, etc.—The bridle path leaves the carretera a little on the Las Palmas side of *Guia* and passes the *Ermita de San Juan*, $\frac{1}{2}$ hr. At the second water-mill, 1,600 ft., 1 hr., take the path to the left and cross the *Bco. Calaboso*. At $1\frac{1}{4}$ hrs., 1,950 ft., another path goes off to the right (either of these paths can be followed to Artenara, Tejeda, the Cumbres, etc.).

Keeping to the left the track leads amongst heather, laurels (til), chestnuts, etc. At $1\frac{3}{4}$ hrs. *Santa Cristina*, a few houses, 1,920 ft. A descent is now made into the precipitous *Bco. de los Tilos* and a shady spot at the bottom, 1,450 ft., $2\frac{1}{4}$ hrs., forms a good halting place. (If the *Bco.* is ascended a scattered wood is entered, the *Ermita de S. Bartolomé* is passed and eventually the Cumbres, etc., are reached.)

Ascending the other side of the *Bco.* the path to the right leads up the *Mña de Doramas* (see *Moya*), that to the left turns down to *Moya*, $3\frac{1}{4}$ hrs., 1,530 ft.

From *Moya* to *Pagador*, $\frac{3}{4}$ hr., or to *Firgas*, $1\frac{1}{4}$ hrs., *Terror*, 3 hrs., etc., refer elsewhere.

Coaches run from *Guia* to *Agaete* and back twice a day. Fare 1 peseta.

The main road turns to the right at *Guia* and leads across a fertile plain to

GÁLDAR, 25 m. (40 kils.) 5,078 inhab. Small inn, 3 beds; 3s. a day.

Gáldar is a small town of very Eastern appearance and possesses a large church of little interest which is said to occupy the site of the former palace of the Guanarteme, once the head-quarters of the Princess Andamana. Close by is a small cave the entrance to which was accidentally discovered in 1881. Owing to the air and light having been excluded the interior is well preserved and the greater part of the wall is still decorated by a geometrical pattern worked out in red and white ochre and charcoal. Many of the drip-stone filters used in the Canaries and the West Indies are made in the vicinity. In the patio of the Casino is a small dragon tree.

The *Montaña de Gáldar*, 1,533 ft., the mud mountain previously mentioned, which commands a good view, can be ascended in about an hour. A number of caves in its sides were once used by the Canarios and in some the beams, placed by the natives, were to be seen until comparatively recently.

The carretera is continued through arid scenery to *Agæte*, 30½ m. (48½ kils.), 3,137 inhabitants. Small inn, 3s. a day.

Agæte is prettily situated a short distance from the sea. There is a small harbour and a mole 1 m. (1½ kils.) from the town which can be reached by the main road of which it is the terminus. On the beach is a dismantled Canario burial ground.

The church at Agæte seems very large for the village, but it is possible that at some time the place may grow up to it, as it has a plentiful supply of water and would make a capital health resort. A trade is carried on with Teneriffe by means of schooners, considerable quantities of butter and oranges, which grow very well here, being shipped across. Just above the town is a pretty little waterfall. There are two houses in Agæte said to have been built by the Canarios (Webb and Berthelot).

EXCURSIONS FROM AGÆTE.—*To the Mineral Springs, Artenara, etc.*—A climb up the fertile, mountainous ravine at the back of the town leads to the spring, 1,650 ft., in about 2 hrs. There is a small bathing establishment, 2 baths. Charge 1 peseta. The water is highly charged with mineral and is said to be of great use in skin diseases.

Following up the barranco, *Artenara* can be reached in about 5 hrs. the *Cumbres* in about 6, or *Valleseco*, *San Mateo* etc. can be reached in a little more. Guide required. There is a remarkable basaltic wall or exposed dyke to be seen in the *Valle de Peñones*. Several detours can be made from the barranco by those stopping in Agæte and a number of very fine excursions can be made.

To Aldea de San Nicolas, Tejeda or Mogan.—A path leads along the cliffs to Aldea in about 5 hrs. The rocks passed through are very fine and at one time a height of 2,300 ft. is gained. It is from this path that the *Mña. de Tirma* is visited, one of the two most sacred mountains of the Canarios. A guide must be taken and care must be exercised that he knows what mountain he is to go to, as very few indeed know anything about the place.

There is no inn but beds can be procured in *Aldea*. From here a path up the barranco leads to *Tejeda* (beds possible) in about 5 hrs., or another path along the coast leads to *Mogan* (beds possible) in 5 or 6 hrs. Refer elsewhere.

Aldea de S. Nicolas can be reached more conveniently in a boat from Agæte in about 1½ hrs. Fare about 5s.

CENTRAL MAIN ROAD from *La Palmas to Tafira, the Monte, Santa Brigida and San Mateo with side excursions and routes from San Mateo to the Cumbres, to the S. of the island, etc.* (*Public Coaches, page 176.*)

The road crosses the stone bridge over the Bco. de Guinguada and turns up to the right. Passing through a beautiful grove of palms, past some banana gardens and under some quarries from which the white tufa is taken out of which the best part of the city is built, a long climb leads up the Pico del Viento, 820 ft., a spot a little on the right of the road which

commands a view of San Lorenzo etc. and allows an idea to be formed of the lie of the land.

A little farther on the left a turning leads to *Jinamar* in about $1\frac{1}{2}$ and *Telde* in about $2\frac{1}{2}$ hrs. The journey is best made on foot or horseback. The path is rather intricate and it is frequently necessary to ask the way. It is possible to climb the *Gran Caldera* or to ascend to *Atalaya*. The Telde carretera is joined at a point $6\frac{1}{2}$ m. ($10\frac{1}{2}$ kils.) from Las Palmas.

Above the turning amongst a row of houses is a venta known as the *Half-way House*, 4 m. (6 kil.), 950 ft., where wine etc. can be obtained.

The barranco on the right is here called the Bco. del Dragonal, lower down the Bco. de la Ciudad and at its mouth the Bco. Guinguada. Higher up the name changes successively to the Bco. Angostura, Bco. de Alonso and ultimately Bco. de Utiaca. This succession of names is common to all long barrancos and readers will bear it in mind and excuse the writer should such changes ever cause confusion. It is in the Bco. de la Ciudad that the Fuente de Morales, which supplies the town and ships with drinking water, is situated.

At 5 m. (8 kils.) the village and church of *Tafira*, 1080 ft. Inns.—Fonda Esperanza, 4s. a day.

The village is of no interest and need only be mentioned as the starting point for the path which descends into the *Bco. del Dragonal*, and leads viâ *San Lorenzo* and the *Vega de Abajo* to *Tamaraceite*, about 1 hr. and so on to *Teror* etc.

On leaving *Tafira* the view down into the Bco. del Dragonal is very striking, the air becomes cooler, the vine-clad hills greener and the Eucalyptus trees by the side of the road straighter and more stately.

This part of the island is known as the Monte or Ex-Monte de Lentiscal because the cindery expanse now covered with vines was, until the beginning of the nineteenth century, given up to euphorbia and the native scrub. It is now the chief and best source of the canary wine (red).

At 6 m. ($9\frac{1}{2}$ kils.), 1320 ft., Quiney's Bella Vista Hotel, 8s. to 12s. a day, pleasantly situated and a good centre for excursions. The monte is also the chief summer resort of those living in the island.

For advertisement see page 40.

WALKS, RIDES AND EXCURSIONS :—*Along the Bco. Angostura to Santa Brígida*.—Opposite the Hotel a path under the hill called the *Cruz del Ingles* leads down to the Bco. which is here some 300 ft. below the road, in about 20 min. The turning to the left is taken at the bottom and is followed past the *Finca de los Laureles* to *Sta. Brígida* in about $1\frac{1}{4}$ hrs. total, whence return by the carretera, $2\frac{1}{2}$ m. (4 kils.).

Down the Bco. to Tafira or to the Bco. del Dragonal etc. :—Turning to the right at the bottom of the Bco. the gorge known as the Augostura is passed

through. Presently the caves and cottages of *Los Frailes* and then *La Calzada*, whence a path to the right leads to *Tafira*, total 1 hr. or following the Beo. a wooden bridge is passed and El Dragonal is entered. Lower down at 1½ hrs. is a farm where there are two shrivelled old dragon trees. From here the path leading from *Tafira* to San Lorenzo (see *Tafira*) can be taken and *Tafira* regained in a total of two hours. From *Tafira* to the Hotel is about 1½ m.

To San Francisco, Telde, etc. :—Another walk is to *San Francisco*, ¼ hr. on the Telde side of *Tafira*. This can be reached by taking any of the turnings to the right as the carretera is descended from the Hotel. It is possible to reach Telde by the same path which leaves the carretera below the Half-Way House or a return may be made by the road leading to the Gran Caldera. Donkeys or Mules can be used if desired.

To the Gran Caldera, Atalaya, Valsequillo, etc. :—At 6½ m. (10 kils.) and a little above the Hotel a rough carriage road descends to the left and leads to the foot of the *Gran Caldera de Bandama*. Turning to the right ascend to a group of cottages, pass through these and bear to the left a few yards along the path leading down into the crater, ½ hr., 1350 ft.

The crater is one of the most perfect known. There is no outlet, the width is over a mile and the bottom, which has gradually subsided, is nearly 1000 ft. below. The layers of cinders around the lip and the vivid colours of some of the rocks sufficiently attest its origin. The bottom is cultivated and a descent can be made on mules, ¾ hr. down and up. A glass of the wine made from vines grown inside the crater can be obtained in one of the neighbouring cottages.

From the cottages a path (safe for animals) leads to the top of the *Peak*, 1840 ft., in ¼ hr. This is well worth climbing, not merely for the view of the crater, but for that of the surrounding country, forming as it does the complement to that visible from the Pico de los Osorios above Teror.

On the N.E. is the *Isleta*, floating in the sea like a separate island, and the houses of the Puerto. Nearer in, part of Las Palmas and the villages of San Lorenzo and *Tafira* with innumerable groups of houses scattered about, of which the names are merely local. To the E. is the valley of Jinamar and to the S.E. Telde, Las Llanos, the *Mña de las Cuatro Puertas* and the Lazareto at Gando Point. The Crater is close below, then follows a somewhat dreary stretch until a few of the houses of Valsequillo are seen to the S.W. Running the eye along the Cumbres, Atalaya is the only inhabited place visible. The Pico de los Osorios is prominent on the W. horizon; part of Aueas is seen to the N.W. and the circle is completed at San Lorenzo. The best time to photograph the Grand Caldera is about 2.30 p.m.

From the cottages another path leads along the ridge of the hill and up a deep hilly lane to *Atalaya*, 1,720 ft. in ½ hr. The most important quarry in the island is passed just before arriving at the village.

Atalaya (Watch Tower) is decidedly the most perfect collection of troglodyte dwellings in the Archipelago. It overlooks the Beo. de las Goteras and was formerly a native stronghold. The present inhabitants manufacture pottery out of clay found in the neighbourhood, fashioning it with a round stone and without a wheel, in precisely the same manner as the Canarios themselves. For some reason the people are unfavourably regarded by their neighbours who rarely intermarry with them. Whether this aversion is a legacy left from before the conquest or not is difficult to ascertain.

Those who have driven from Las Palmas can send their carriage from the Caldera to a point a little below Santa Brígida and rejoin it there from Atalaya (a short half hour) or a return can be made by turning to the left out of the path leading back to the Caldera and rejoining the carriage by a little wine-shop at the foot of the hill.

From Atalaya a path leads to *Valsequillo* in 2 hrs., *Telde*, 4 hrs., or up to the Cumbres from Valsequillo (not recommended.)

To Teror, Fargas, Guia, etc.—The most attractive route to Teror is by the

Vega del Centro. Ascend the carretera to *Santa Brígida*, 2½ m. (4 kils.) 1,580 ft., whence foot or mules. Times from Santa Brígida.

Descend into and cross the *Bco. de la Vega* and as due N.W. as possible. A rock with some beautiful specimens of basaltic crystals, some 45 ft. long, will be noticed and near it a few caves. At ¼ hr. the bed of the *Bco. de Alonso*, 1,410 ft., which is impassable during heavy rains. An ascent is made and then the *Bco. del Pino Santo* is crossed, 1,820 ft., ½ hr.

A long climb follows to just below the *Caldera de la Vega*, 2,450 ft., 1¼ hrs., a small unbroken crater invisible from but close to the path. On the upper side are a small group of trees and a spring, which in fine weather would form a capital camping ground.

A short distance farther on is the *Cruz de Lobrelar*, 2,430 ft., whence there is a very fine view of the upper part of the amphitheatre of *Teror*, etc. (Those who are staying at the Monte should return from here.) A steep descent now leads into *Teror*; total time, 2¼ hrs. For further on refer to *Teror*, etc. Firgas is the best place to sleep. Other routes to *Teror* are *viâ* San Lorenzo and Tamaraceite, *see Teror*, etc., about 2 hrs., or by San Mateo and the Vega de Arriba in about 3½ hrs. *see San Mateo*. The Vega del Centro is the most picturesque.

For Artenara, the Cumbres and S. of the island, see San Mateo.

The MAIN ROAD passes a small crest above the Monte and at 8 m. (13 kils.) passes the path to the left which leads to Atalaya, ½ hr., Valsequillo, 2½ hrs., etc. (*see Atalaya*).

At 8½ m. (13½ kils.) SANTA BRÍGIDA, 1,580 ft., a small village built on the edge of the barranco. The church is not of much interest. There are one or two fondas, 4 to 5 pesetas a day. Accommodation poor. The excursions from here are given under the Monte. There is a pretty walk to the left just above the town.

At *Los Pasitos* 12 m. (19 kils.) there is a grove of trees with one enormous chestnut standing close to the road said to be the largest in the island. It is not very high but measures 25 ft. 7 in. round.

At 13 m. (21 kils.) SAN MATEO, 2,680 ft. 3,777 inhab. Small fonda, 2 rooms. Indifferent. Arrangements might be made to secure beds elsewhere.

The town is beautifully situated. In the neighbourhood are groves of walnuts, chestnuts, pears, umbrella and other pines and it offers great attraction as a mountain climatic resort and as a centre for a number of excursions. It is also the best point of departure for the Cumbres and for the S. of the island generally. The village itself where the carretera ends is of no interest.

EXCURSIONS FROM SAN MATEO.—*To los Chorros.*—A path up the Bco. between the town and the *Mña de Cabreja* leads in 20 min. to the springs. A little higher up is a waterfall some 120 ft. high. The bed of the stream is followed and crossed and the walk is altogether a very pretty one. The *Mña de Cabreja* can be climbed if desired, about 1 hr. of rather rough work.

To El Charco de la Higuera, Valsequillo, etc.—Turning to the left at the top of the village, a good path leads in 25 min. to El Charco de la Higuera, a

waterfall 60 ft. high, prettily situated. The slopes beyond command a fine view of the plains of *Valsequillo*, which can be reached on foot or mule in about $1\frac{1}{2}$ hrs.

To Teror.—A path to the W. leads under the Mña de Cabreja, across the *Veja de Arriba* and down to *Teror* in about $3\frac{1}{2}$ hrs.

To Tejeda direct.—The direct road is taken past the *Cruz de Tejeda*, 5,740 ft., about $2\frac{1}{2}$ hrs. and down the Bco. de la Culata to *Tejeda*, 3,160 ft., about 4 hrs. Poor accommodation, 1 doliar.

The view of the Barranco de la Culata from the Cruz de Tejeda with the isolated Roque Nublo, 6,110 ft., boldly defied on the left, the vast succession of precipitous ravines in front and on the right in strong contrast to the startling verdure of the cultivated patches below, the blue sea in the distance and the lofty mountains and majestic Peak of Teneriffe towering above and crowning the whole, form a picture never to be forgotten, and second to none in Switzerland or the Alps.

The Peak is visible almost all the way down to Tejeda and its great height is never so well appreciated as when it soars higher and higher over the adjacent cliffs, which appear to shrink away as the traveller descends, as though reluctant to hide it from sight.

About a mile below Tejeda is an isolated rock known as the *Roque de Bentaguaya* near which are some Canario caves.

EXCURSIONS FROM TEJEDA.—*To Artenara* in about $1\frac{1}{2}$ hrs. and thence to *Agate* in about 6 hrs. Fine scenery.

To Aldea de S. Nicolas in about 4 hrs. wheuce boat to *Agate*, $1\frac{1}{2}$ hrs., or by the cliffs in about 5 hrs. see *Agate*, or to *Mogan* in 5 or 6 hrs. along the coast. Very rough work.

To Mogin direct in 5 or 6 hrs. An arduous journey.

To Tirajana.—Ascend the Bco. de la Culata, leave the Roque Nublo on the right, cross the Cumbres and descend the Paso de la Plata to *Tunte*, 5 hrs. See *Tunte*.

From San Mateo to Agate, Artenara, etc.—Pass below the Mña de Cabreja, descend into and cross the *Bcos. de Utiaca*, 40 min., *Ariñes* and *San Isidro*, in the last of which a fiesta is held once a year, to just below the *Caldereta de Valleseco* where turn to the right for *Valleseco*, about 3 hrs., to the left for *Artenara*, about 4 hrs., or the *Cruz de Tejeda* about 4 hrs., or continue to *Agate* about 7 hrs., etc., see map. These roads are practicable for animals but a guide is absolutely necessary.

From San Mateo to the Cumbres.—The path up to the *Cruz de Tejeda* has already been described, 5,740 ft., $2\frac{1}{2}$ hrs.

The most direct and most frequented track is that known as the *Paso de la Cueva Grande* which leaves the top of the village and ascends the ridge dividing the Bco. de los Chorros from the Bco. de la Lechucilla. At about $\frac{3}{4}$ hr. there is a good view of San Mateo and of the whole country between it and Las Palmas. Eventually a projecting wall of basalt is passed through, where a cross marks the spot on which a man was frozen to death, and the *Cumbres* are reached in a little over 2 hrs.

The most picturesque route is to bear to the left at the top of the village.

The Barranco de la Lechucilla is then followed one-third up. The stream is crossed, and a zigzag path leads directly to the summit of the ridge dividing this barranco from that called "del Rodeo." Fine view. Pedestrians may now keep up the ridge, and skirt the cinder mountain on the left side, pass between its summit and the *Roque de los Saucillos* and the Cumbres lie in front, $2\frac{1}{2}$ hrs. That surmounted by a cross, the *Montaña de la Cruz Santa* 6,068 ft., may be climbed, but the highest point, 6400 ft., is near the "Pozos," farther to the right. The "Pozos" is a depository of snow and ice, which can be descended by a wooden ladder. It is sometimes locked up.

Those on mules must cross the head of the Barranco del Rodeo (fine view as far as Telde and the sea), and ascend the mountain side, leaving the Roque de los Saucillos on the right. The two parties can meet at the place of the Fiesta, at the W. foot of the Holy Cross, where twice a year there is a religious gathering and a small fair (Saint Days of St. Peter and St. John).

From here the *Pico de los Pozos* is crossed and the Paso de la Cueva Grande is met at a point marked by a cross.

Those ascending the Cumbres will understand on arriving at the summit that there is no difficulty in moving about. The summit of the island is a shallow undulating basin with an inclination towards the Bco. de Tejeda. Here and there the surface is broken by such projections as the Mña de la Cruz Santa, the Roque Nublo (a most remarkable stone pillar easily visible from Tenerife and some 370 ft. in height) and by basaltic walls or dykes exposed by denudation, but the general impression left on the mind is that of a great shadowless waste, covered with loose stones and silent as Hades.

The magnificent view from near the Cruz de Tejeda has already been mentioned and, whether the ascent be made by the Cueva Grande or the Roque de los Saucillos route, it is suggested that a return be made which shall embrace this view.

A fair price for mules in San Mateo is from 3s. to a dollar though more may be asked. Times may be calculated as $2\frac{1}{2}$ hrs. up, 1 hr. to cross the Cumbres and 2 hrs. down.

SOUTH OF THE ISLAND FROM SAN MATEO.—The route *via* Tejeda to San Nicolas and Mogan has already been given.

To Tirajana (Tunte), Mogan etc.—Ascend by the Paso de la Cueva Grande, $2\frac{1}{2}$ hrs., cross the Cumbres, $3\frac{1}{2}$ hrs. and descend the paved *Paso de la Plata* to the cross, $4\frac{1}{2}$ hrs.

From here to *Mogan* about 6 hrs., and *Aldea* about 11 hrs. A wild rough road.

From the cross the path descends through the Pinar, as a number of scattered pine-trees are called, passes the cemetery and enters *Tunte* (*S. Bartolomé de Tirajana*), 2,660 ft., beds possible, in $5\frac{1}{2}$ hrs. See *Tunte*.

To Santa Lucía, etc.: Leave San Mateo by the Roque de los Saucillos route, $2\frac{1}{2}$ hrs., cross the Cumbres, $3\frac{1}{2}$ hrs. descend by the *Vueltas de Taidía* past *Taidía*, where the circular Canario house once stood (refer *Taidía*), to the bottom of the *Barranco de Tirajana*, 1,850 ft., $5\frac{3}{4}$ hrs., and turn to the left to *Santa Lucía*, $6\frac{1}{4}$ hrs., 2,056 ft., bad accommodation, see elsewhere, or cross the bed of the barranco and ascend to *Tunte*, $7\frac{1}{2}$ hrs.

Both the above routes command very fine views but the first is the best for travelling. On the second the road down the *Vueltas* is difficult to find, but the bird's eye view into the Bco. de Tirajana, described elsewhere, is magnificent.

Agüimes can be reached from Santa Lucía in $3\frac{1}{4}$ hrs. or from *Tunte* in $4\frac{1}{4}$ hrs. and *Maspalomas* can be reached from the latter in 5 hrs. Refer elsewhere for details.

MAIN ROAD TO THE SOUTH OF THE ISLAND.

From Las Palmas to Telde, Ingenio, Agüimes, Santa Lucía, San Bartolomé (Tunte) with continuation to San Mateo, Tejeda, etc. (Public Coaches, page 176.)

The high-road leaves the stone bridge, turns up by the Municipio and bears to the left into the Telde carretera, leaving the Protestant cemetery on the right and skirting the coast by the side of a number of banana gardens.

At 4 m. (6 kils.) a tunnel is passed through and at $5\frac{3}{4}$ m. (9 kils.) is the village of *Finamar*, 210 ft., a scattered group of houses spread over a valley lying below the Gran Caldera, and bounded on one side by a wide stream of lava and on the other by a black cinder wall. In spite of its volcanic surroundings good workable limestone is found close to the village.

A number of paths lead inland from here and *Tafira* can be reached in about $1\frac{1}{2}$ hrs. or *Ata'aya* in about the same time. Refer elsewhere.

A walk of about $\frac{1}{2}$ hr. from the road leads to *La Cisma de Gallego*, a volcanic hole or perpendicular lava cave supposed to be unfathomable. The hole is dangerous.

At $6\frac{1}{2}$ m. ($10\frac{1}{2}$ kils.) a stream of lava crosses the road and allows those driving to Telde to examine the *Euphorbia Canariensis*, an indigenous euphorbia peculiar to the Canaries from which a strong caustic exudes in the shape of milk. Care must be taken not to get it on the hands or in the eyes. In case of accident a fleshy-leaved plant, which frequently grows near or inside the euphorbia bush, supplies a remedy. This euphorbia is seldom found in positions where the roots are not in actual contact with solid lava. The milk is sometimes used by the fishermen to stupefy fish.

A path leaves the road at the foot of the hill from which the lava flows and leads to *Tafira* in about $2\frac{1}{2}$ hrs. (see *Tafira*) or, by bearing to the left, the *Bco. de la Higuera de Canaria* can be reached, a little higher up than the orange groves mentioned under Telde.

Very soon Telde comes into view, the groves of palm trees, Moorish dome of Los Llanos and groups of white houses seeming rather to realize one's ideal of an old Syrian city than that of a town in the Canaries. The barranco is next crossed by a handsome stone bridge, on the right of which are a number of old Canario caves, and the town is entered.

TELDE, 390 ft., $8\frac{1}{4}$ m. (13 kils.), 9403 inhabitants. Fonda Europa 3 beds, 4s. a day.

With better accommodation Telde might form a good centre for visitors. The rainfall is scanty and the climate good, added to which there is always a refreshing breeze. The scenery in the neighbourhood is far less attractive than that to be found on the N. of the Island.

There are two churches, San Juan and San Pedro, neither of much interest. A good supply of water is obtained from the hills and there are several well cultivated farms in the neighbourhood. There is also a sugar-mill and a certain quantity of cane is grown.

A pleasant walk is to follow the bed of the Barranco de la Higüera de Canaria, to the W. of the town, for about $2\frac{1}{2}$ m., to the far-famed orange groves, where the best fruit of the Archipelago is produced. Little care is taken of the trees. The soil is a sandy loam, and all the trees are planted on the N. slope.

Leaving the main street of Telde by the Calle de Cubas and turning to the right at the bridge, some 300 yds. up, the adjacent village of *Los Llanos* is reached about $\frac{1}{2}$ m. from Telde proper. It is here that the country knives are made, but it is rarely that the makers have any in stock. The Church is large but of no interest.

A tiresome bridle path leads from here to *Valsequillo*, 2 hrs., an uninteresting village where a quantity of almonds are grown (no accommodation), to *Atalaya* or *San Mateo*, about $\frac{1}{4}$ hrs.

By the Church a turning to the left leads into the main road to Agüimes. The drive is very dull and barren but the land gives large crops of wheat in rainy years.

At $12\frac{1}{4}$ m. ($19\frac{1}{2}$ kils.) the *Montaña de las Cuatro Puertas* (Four doors) is passed on the left. It is within ten minutes of the road and is probably the most perfect example left of what was undoubtedly an aboriginal place of worship; probably that known to the Canarios by the name of *Huniaya*.

On the N. side of the summit is a large and carefully excavated cave with a square platform in front, both facing directly towards the Isleta, where the most sacred burial ground of the Canarios was situated. The four entrances, which give the mountain its name, are only separated by columns, thus allowing free entrance to the wind. As this part of the island is nearly always windy, this alone is sufficient to prove that the place was never intended as a shelter. The socket holes in the platform were probably used for erecting some timber structure to support the body during the funeral ceremonies before the procession set out for the burial ground.

Keeping the top of the hill on the right and proceeding to the sheltered side, a well cut path in the rock leads to a succession of caves which, acting on the supposition that this was a residence of priests (*faycans*) and consecrated virgins (*harimaguadas*), can be thus explained.

The path is superior to that usually leading to Canario caves and such as might be made in a case where a heavy body had to be carried carefully. Owing to the protected position and the fact that this is one of the driest parts of the island, everything has remained nearly intact.

The small caves on the right probably belonged to the sentries who guarded the entrance.

The first large cave on the right, with the three trenches pointing towards a common centre, was probably used for drying the bodies in the sun after they had been cleaned and repaired, the bodies being placed in the trenches so that they could easily be covered up in case of rain. The space behind would suffice for the chief mourners, who would accompany the body round to the temple, and the small caves in the side may have served for litters, etc.

The small cave below on the other side of the path was probably devoted to the preparation of the dead body, the three receptacles in the wall being used to hold the various medicaments required.

The passage leading from the drying trenches to the caves inside must be presumed to have been closed by a door, so as to allow of communication of those within with the outside world, without their coming into actual contact. It will be noticed that there are no steps descending into the interior.

The large cave which this passage overlooks and the three small chambers in its walls, across one of which the sockets for the beams are to be seen, was no doubt partly used as a store chamber. The dry position it occupies would make it very suitable. It should be remembered that it was one of the duties of the priestly order to store what remained over from their tithes against times of scarcity. Grain was usually kept in pots or in holes in the ground.

In the next cave the beams were evidently carried right across and it seems likely, from the shape of the western buttress, that this was the kitchen. The men of the establishment would have slept on the beams, as it would have been dangerous to place stores so close to the fire.

The next cave is small and the beams must have been so near the roof that they could only have served as an ornament. This indicates that it was occupied by some dignitary such as the chief priest, who would thus sleep between the men and the rest of the colony. If this supposition be correct the passage above would generally be closed.

Following the path to the barrier of stones, doubtless placed there to shut in the goats at night, a large semi-circular cave in the background, which is too low to allow of a man standing upright, appears to have been the shelter for the goats. The small cave on the right, into which a goat could easily be driven, would serve as a milking shed and for making butter and cheese. It is perhaps well to remind the reader that butter, kept for several years in a pot, was one of the chief medicines used by the natives.

The goats would be milked and the leather for covering the mummies would be sewn by the *Harimaguadas*. The window in the goats' cave and the look-out above would both afford some little recreation to a number of young girls, kept for years secluded from all intercourse with the outside world.

One cave remains to which access is more difficult than to the rest. This may well have been the sleeping place of the maidens. It is the most remote of all; the sockets in the walls point to the erection of several beams on which a sufficient number would find room to lie down and, finally, the curved socket-holes in the window, from which the beams could be immediately, lifted, indicate a last means of escape in case of imminent danger. The window was timbered, but the Canarios knew little about carpentry and space enough would have been left to spring through. Springing through meant falling down a precipice, but, as a last means of escape, this sacrifice would probably be expected of a *Harimaguada*.

Returning along the path a low natural wall must be surmounted and another small group of caves is found. One of these is much blackened by fire and it is most improbable that this has been done since the conquest. It is again called to the attention of the reader that butchers, as in Egypt, were outcasts, and to them belonged the duty of first cleaning the body of the dead and burning the entrails preparatory to putting the ashes back into the corpse. That this was not the kitchen to the other caves is apparent. From its careful construction in comparison to the adjoining caves it seems much too good for the butcher, whilst smooth walls and a small aperture into the open air were absolutely necessary if the ashes were to be properly gathered up.

Those who have studied the subject more deeply may differ from the writer's conclusions, but, apart from the question of what state of civilization the Canarios lived in before the arrival of Europeans, the mountain is worth ascending. It is 923 ft. high and commands a view which includes Ingenio, Carrisal, the Lazareto, Telde, Las Palmas, Puerto de la Luz, the Pico de Bandama and the Cumbres. The sheltered caves are also a capital spot for a picnic.

Further along the MAIN ROAD

At $13\frac{1}{4}$ m. ($21\frac{1}{4}$ kils.) a track to the left leads away to Mas-palomas, etc. See next excursion.

At *Agua Tona* there are a few palm trees and the country looks a little greener. Between here and Ingenio a road to the left, along which carriages can pass, leads to *Punta de Gando* and the buildings of the *Lazareto* which can be seen below.

Travellers by ships coming from infected ports can perform quarantine here. The authorities might have been more generous with the space allotted. Gando Bay was the point at which the Spaniards were allowed to trade prior to the conquest. The natives permitted D. Diego de Herrera to build a fort here in 1466, which was eventually destroyed owing to excesses on the part of the Spaniards.

At $16\frac{1}{2}$ m. ($26\frac{1}{2}$ kils.) a path leads up on the right to *Ingenio*, 860 ft., 2,500 inhabs. ; no inn, $\frac{1}{2}$ m. from the road.

Ingenio was the name given to a place where sugar used to be cultivated. An ancient sugar-factory existed in the village and some of the houses are very old. The foundations on which one or two of them rest are attributed to the Canarios but are much more likely to have been made by the early Spanish settlers.

A little farther on the deep Barranco de Guayadeque is crossed and the road terminates at

Agüimes, 18 m. ($28\frac{1}{2}$ kils.) 810 ft., 2479 inhabitants. No inn, accommodation miserable.

The village is of no interest and has a destitute poverty-stricken appearance. In the Bco. about $1\frac{1}{2}$ hrs. above the town are a number of caves where the Canarios lived and in some of which bones and mummies have been found. There are also a few caves in the Bco. below the town. *Agüimes* can never become a favourite resort as it is almost constantly swept by a high wind.

Leaving the village past the three crosses the bridle path traverses a bare windy plain. The village of *La Pileta* is left to the right and at 1 hr. *La Mina* (water-tunnel) in the entrance of the Bco. *Angostura* is passed, 440 ft.

The Bco. is crossed in a slanting direction and at 100 yds. from the point where the path leaves the bed is a rock, rising from the middle of the Bco. known as *Los Letreros*.

On the side of this rock that faces up the Barranco a number of names are written. Of these the earliest bears date 1854 and is some $3\frac{1}{2}$ ft. above the bed of the Barranco. Others are higher up, more lower down and by scratching away the soil still more can be found. The reason of this is that the rocks in the surrounding country are very much broken up by cleavage and are constantly carried down by the rain, whilst the rock under discussion has, for some reason remained intact ; so that it remains *in situ* and is gradually being buried.

The name *los Letreros* has belonged to this rock for centuries. There is a tradition that a Bishop, in making the round of his diocese, stopped here and

made his mark above some other pagan writing in order to show that Paganism had been succeeded by Christianity. In process of time the Pagan mark would first be buried, then the Christian and lastly those now visible which, worthless in themselves, serve to show more or less the rate of the growth of the bed of the barranco.

Amongst these modern marks is a peculiar hieroglyphic formed by an equilateral triangle standing on its apex and surmounted by a perpendicular line crossed by two horizontal lines, of which the upper one is the shorter. At first sight it appears to be a rough way of drawing a ship, but enquiry shows that it bears a resemblance to some of the early mediaeval trade marks, of which specimens stamped on pottery may be seen in the British Museum. Whether this sign was repeated in recent years on different parts of the rock by idlers copying marks unknown to them, which they saw disappearing by degrees, or whether they were a species of advertisement, cut in several places by the early traders, with the object of attracting the attention of the natives and inducing them to deal only in goods protected by that particular trade mark, history fails to say.

The point marked by the rock was the best central meeting place for the traders using Gando Bay, as all traders seem to have done up till the conquest. The Canarios were populous above Agüimes, in Tirajana and in the Bco. de Fatarga and it is unlikely that strangers would be allowed to penetrate very far into the country.

It is possible that by moving the gravel away some inscriptions might be found which have been preserved from the effects of the weather. If any visitor to the Island should be sufficiently curious to stop on the spot and dig, it is to be hoped that he will have wax and all that is necessary with him, so that if the sailors who passed round the Cape by the order of Necho, King of Egypt, ever landed here and wrote the fact on stone, the world may obtain an undoubted replica of what they had to say.

Following the path up the *Cuesta de los Cuchillos*, past a point where a track to the left leads away to *Sardina* in $\frac{1}{2}$ hr., the plateau known as *Las Mesas de la Burra* is crossed and a gradual ascent is made to 1980 ft. when, by bearing to the left, a descent is made to the edge of the *Barranco de Tirajana*.

At $2\frac{3}{4}$ hrs. a path leads away to *Juan Grande* in about $1\frac{1}{4}$ hrs. crossing the barranco and passing *Los Gallegos*, where there is a settlement of negroes, probably descended from slaves imported in the early sugar days, and whose blood has been largely introduced into the surrounding peasantry.

At $3\frac{1}{4}$ hrs. *Santa Lucía*, 2056 ft., no inn, bad accommodation, is prettily situated and is surrounded by cultivated land and groves of trees, but the village is dirty and swarms with fleas, etc.

At $3\frac{3}{4}$ hrs. the bottom of the *Vneltas de Taidia* leading to San Mateo, etc. is passed.

There was once a large circular native house at Taidia, said to have been built of squared stones and so strongly supported on solid timber that the roof was used for centuries as a threshing floor. This was unfortunately destroyed some years ago and the proprietress built another house partly out of the stones of the old one. The new house is plastered over. In front of the site is a mountain of which the side is honeycombed with caves, now inaccessible.

Crossing the bed of the barranco, 1850 ft., a pretty ascent through almond and pear trees, leads to $4\frac{1}{4}$ hrs. *Tunte* (S. *Bartolomé de Tirajana*) 2660 ft., beds possible.

The village is beautifully situated in the midst of delightful scenery and would make a good centre for excursions if accommodation were provided.

The enormous valley in which it is placed has been called a crater. It probably was so originally and seems to have been the centre of disturbance mentioned elsewhere as having forced its way through and split all the rocks surrounding it into small pieces. At present all prominent signs of the crater itself have been swept away or buried.

The church is of little interest, but contains an image of Santiago, said to have appeared miraculously where the Ermita now stands on the other side of the Paso de la Plata.

At the top of the village there is a circular hut which there is every reason to believe to be of Canario origin. It is still inhabited and is in perfect repair. The form is circular and the foundation is of very large stones, the diameter of the interior being about 20 ft. None of the stones were shaped and earth was used as mortar, as it often is to-day by the Spaniards. The lintel of the door and of the two chambers built in the wall are of large mishapen pines, as is the span roof and nearly the whole of the last two or three feet of the building. The style of architecture is most primitive. The roof is covered with mud as has probably always been the case. The number of fleas inside is stupendous.

EXCURSIONS FROM TIRAJANA.—*To the Cumbres, San Mateo, etc., by the Paso de la Plata.*—Leave the top of Tunte and pass the cemetery, then climb through the Pinar, amongst scattered pines, to the cross on the *Paso de la Plata*, 1 hr. On the opposite hills is the *Ermita de Santiago* where the miraculous image first appeared.

(From here a path to the left leads to *Mogan* in about 6 hrs. which can be continued to *Aldea de S. Nicolas* in another 5 or 6 hrs. A most fatiguing journey.)

Bearing up to the right the road proceeds by zig-zags and the pavement leaves off at the entrance to a shallow barranco where water can generally be procured. This is followed until the basin of the Cumbres is reached in about 2 hrs. See elsewhere.

Times.—2 hrs. to the *Cumbres*, 1 hr. across them and about $2\frac{1}{2}$ hrs. down to *San Mateo* or *Tejeda*. Total $5\frac{1}{2}$ hrs.

To the Cumbres and San Mateo by the Vueltas de Taidia.—Descend from Tunte into the Barranco and cross same leaving Santa Lucía on the right. Refer under San Mateo. Time $3\frac{1}{2}$ hrs. to Cumbres, 1 hr. across same. 2 hrs. down. Total $6\frac{1}{2}$ hrs.

To Maspalomas by the Bco. de Fatarga.—Leave the top of Tunte and swing round to the left just below the cemetery. Top of ridge with very fine view, 2,758 ft., $\frac{1}{2}$ hr.; *Fatarga*, 1 hr.; *Maspalomas*, 5 hrs. A rough road, refer to Maspalomas for details.

From Las Palmas via Telde to Carrisal, Juan Grande, Maspalomas, Arguineguin, Mogan and Aldea de San Nicolas or Tejeda, or from Maspalomas via the Bco. de Fatarga to Tirajana.

Leaving the Agüimes carretera at $13\frac{1}{4}$ m. ($21\frac{1}{4}$ kils.) a road to the left leads in 1 hr. to *Carrisal*, 340 ft., a little village where there is a spring in the Bco. de Guayadeque below Agüimes. There are several Canario caves in the neighbourhood but nothing of any particular interest except the out-crops of sand-stone along the track.

A long straight road leads to the S. The country is very flat and is built of the debris washed down from the hills on the right. *Areynaga* with its salt pans is passed on the left and *Sardina* is left on the right. In the neighbourhood there is workable lime.

A path leads past *Sardina*, $\frac{1}{2}$ hr., to *Santa Lucía*, about 3 hrs.

At $1\frac{3}{4}$ hrs. the bed of the *Bco. de Tirajana* is crossed (times taken from the carretera) and at $2\frac{1}{4}$ hrs., *Juan Grande*, 100 ft., is reached, a miserable cluster of houses with no accommodation.

A path from here leads *viâ los Gallegos* up to *Santa Lucía* in about $3\frac{1}{2}$ hrs. See elsewhere.

The road again continues over flat, dull country where little more than euphorbia and balo are met with.

The interest of this part of the journey is confined to the geological formation of the surrounding country. Owing to some great pressure brought to bear, the rocks are laminated almost like slate and are rapidly crumbling away. The ground is strewn with stones which have been but little worn, as though the eruptive force had made itself felt when this part of the land was too much below the surface of the sea for the action of the waves to have any effect, and had then been raised quickly above them. In one place the schistose rock is interrupted by a large patch of cinders, probably the remains of a blowhole, but the direction of the principle line of force seems to have been from near Tunte. Were it not for the caps of lava, protecting the mountain spurs, all the country, from the coast to the Cumbres, would probably be a great swelling plain. It is not unlikely that most of the land could be rendered fertile by the aid of wells and windmills.

At $3\frac{1}{4}$ hrs. a small spring is passed, the road is gradually covered with sand blown up by the southerly winds and at $4\frac{1}{4}$ hrs. *Maspalomas*, 100 ft. is reached. No inn. A bed or two can be had. Letters of introduction should be taken.

A certain amount of interest attaches itself to the sandy plain and to the *Lighthouse*, $\frac{1}{2}$ hr. from the village. The country also affords a happy hunting ground to the naturalist. Carriages can be driven as far as this but the jolting is tremendous and the foot or saddle are to be preferred.

The path continues round the coast to *Arguineguin*, $6\frac{1}{4}$ hrs., accommodation the same as in *Maspalomas*. Near the village is an old Canario burial ground on the beach, but the tombs have been rifled.

From *Arguineguin* it is best to take a boat to the Bco. de *Mogan*, 1\$ to $1\frac{1}{2}$ \$, whence *Mogan* is easily reached.

The land journey takes about $4\frac{1}{2}$ hrs. and the route from *Mogan* *viâ Veneguera* and *Tasártico* to *Aldea de San Nicolas*, another 5 or 6 hrs.

Mogan is a very small village in the mountains where beds may be procured but with difficulty. There is an old burial cave near the village.

Maspalomas to Tirajana.—A path leaves *Maspalomas* to the N. and descends into the rocky and magnificent Bco. de *Fatarga*. Keeping the *acéquias* on the right, a number of Canario caves are passed on both sides, many, without doubt, unexplored. Progress is very difficult in wet weather but, when fine, it would be easy to camp here and hunt for mummies. There is good water and plenty of pigeons to be had for the shooting. The *acéquia* ends at $1\frac{1}{2}$ hrs., 450 ft.

At 2 hrs., just after passing a small farm, a path leads up out of the barranco and at $2\frac{1}{2}$ hrs., 900 ft., another farm, nestling in palm trees, is passed. At 4 hrs., *Fatarga*, 1785 ft., a village most picturesquely placed on a hill and situated in a fruitful valley full of almonds and olives.

The ascent now becomes rapid and at $4\frac{1}{2}$ hrs., 2,758 ft., the summit of the ridge dividing the Bco. de *Fatarga* from the Bco. de *Tirajana* is reached. The view is magnificent. *Santa Lucía* is seen a little on the right, part of *Tunte* on the left, the houses of *Taidía* in between and the *Paso le la Plata* on the left.

Bearing to the left and swinging sharply round to the right below the cemetery the path enters *Tunte* (*S. Bartolomé de Tirajana*) 2,660 ft. 5 hrs. See elsewhere.

APPROXIMATE PRICES OF CARRIAGES, HORSES, ETC.

(Taken with the exchange at $28\frac{1}{2}$ pesetas to £1.)

IN LAS PALMAS: Carriages to hold up to 4 or 5 persons—
To the North: Puerto de la Luz, 1\$; the Lighthouse, 3\$; Tamaraceite, $1\frac{1}{2}$ \$; Teror, 4\$; Arucas, 3\$; Firgas, $4\frac{1}{2}$ \$ and 1s. each for a mule up to the village; Bañadero, 4\$; Cuesta de Silba, 5\$; Guía, 6\$; Gáldar, 6\$; Agaete, 8\$ (return next day, 12\$); on the central road: Tafira, 2\$; the Monte. $2\frac{1}{2}$ \$;

the Gran Caldera, 3\$; Santa Brígida, 3\$; San Mateo, 4\$; on the South road: Jinamar, 1½\$; Telde, 2½\$; Mña de las Cuatro Puertas, 4\$; Agüimes, 4½\$.

Saddle-horses (with English saddlery): Puerto de la Luz, 3s.; Lighthouse, 5s.; Tamaraceite, 1\$; Teror, 2\$; Arucas, 1½\$; Firgas, 2\$; Bañadero, 2\$; Cuesta de Silba, 2½\$; Guia, 3\$; Gáldar, 3\$; Agaete, 4\$ (single); Tafira, 1\$; the Monte, 5s.; Gran Caldera, 1½\$; Santa Brígida, 1½\$; San Mateo, 2\$; Jinamar, 1\$; Telde, 5s.; Mña de las Cuatro Puertas, 1½\$; Agüimes, 2\$.

All the above prices are for return journeys on the same day with the exception of Agaete. Those taking such long journeys as Guia and back in a day (44 miles) will of course take care to allow so much time that their horses need not travel more than 6 m. an hour, not including stoppages.

The Official tariffs may be inspected at the Inspeccion de Vigilancia, Perez Galdós, No. 1.

Horses per ½ day, 1\$; per ¾ day, 1½\$; whole day, 2\$.
Donkeys 2s. to 3s. a day. All these prices may be reduced by bargaining, and mules etc. can be obtained for less, either in Las Palmas or in the country town driven to.

IN GUIA.—*Horses or mules (approximate)*: Half a day, 3 pesetas; a whole day 1\$ or for long expeditions on bad roads 5s. per day. Named rides—To Agaete, 1\$; to the spring above Agaete, 1½\$; to the Finca Corvo, in the Mña de Doramas or top the Bco. de los Tilos, 1½\$ (all these are return). Single journey to Doramas, Moya, and Firgas to carretera 2\$ or on to Teror 2½\$.

Carriages: To Gáldar, 5s; Agaete, 3\$; Las Palmas 6\$ to 7\$.

Donkeys: 3 pesetas a day.

PRICES AND APPROXIMATE TIMES OF THE PUBLIC COACHES.

| Kilos. | Miles. | A.M. | P.M. | Prices. | | A.M. | P.M. |
|--------|--------|-------|------|---------|---------------|------|-------|
| 7½ | 4½ | 7 | 3 | 1 pes | Agæte | 3 | |
| 17 | 10½ | 8 | 4 | 1.50 | Gáldar | 4 | 12 |
| 22½ | 14 | 9 | 5 | 1.50 | Guia | 4.30 | 12.30 |
| 36 | 22 | 10 | 6 | 1.50 | Bañadero | 6.15 | 2.15 |
| 40 | 25 | 11.15 | 7.15 | 2 pes | Arucas | 7 | 3 |
| 48½ | 30½ | 11.30 | 7.30 | 2 pes | Tamaraceite | 8 | 4 |
| | | | 9.15 | | Las Palmas | 9 | 5 |
| 7½ | 4½ | 7 | 3 | 1 pes | Teror | 6.30 | 3 |
| 20½ | 13 | 8 | 4 | 2 pes | Tamaraceite | 8.30 | 5 |
| | | 10 | 6 | | Las Palmas | 9.30 | 6 |
| 8 | 5 | 7.15 | 2.30 | 1 p. 10 | San Mateo | 6 | 3 |
| 9½ | 6 | 8 | 3.30 | 1.25 | Santa Brigida | 7 | 4 |
| 13½ | 8½ | 8.15 | 3.45 | 1.35 | Monte | 7.45 | 4.30 |
| 21 | 13 | 9 | 4.30 | 1.60 | Tafira | 8 | 4.45 |
| | | 10 | 5.30 | | Las Palmas | 9 | 5.30 |
| 13 | 8½ | 8 | 2.30 | 1 p. 10 | Agüimes | 6 | |
| 28½ | 18 | 9.15 | 4 | 1.50 | Telde | 7.45 | 4 |
| | | | 5.30 | | Las Palmas | 9.15 | 5.15 |

A public coach runs between
Agæte and Guia twice a day.
Fare 1 peseta each way.

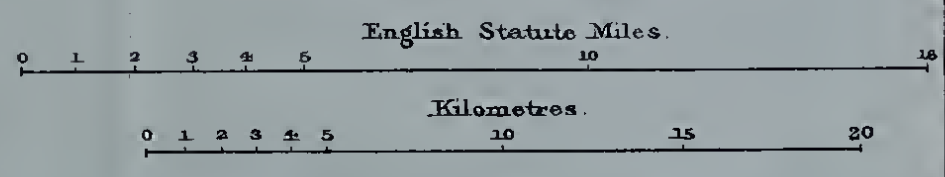
Coaches outward of an after-
noon leave at different hours
but start homewards at the
same time.

NOTE.—On Sundays and Holidays extra coaches are often put on and the regular coaches frequently start an hour earlier.



GRAN CANARIA.

- | | |
|---|--------------------|
| B ^{co} Barranco (Ravine). | Pinar Pine Forest. |
| P. Puerto. | F. Fuente. |
| Pt. Punta. | Carretera. |
| M. M ^{ta} Montaña. | Camino. |
| + Ermita. | R. Roque. |
| Alturas en Pies Ingleses, (F ^t) | |



Specially prepared for
Brown's "Madeira and
the Canary Islands".
1911



FUERTEVENTURA.

THIS island lies between lat. $28^{\circ} 1'$ by $28^{\circ} 43'$ N. and long. $13^{\circ} 49'$ by $14^{\circ} 32'$ W. of Greenwich, to the E.N.E. of Grand Canary; to the S.W. of Lanzarote and 2 degrees to the E. of Teneriffe. It was formerly called Herbania or Planaria, is 156 sea miles (287 kils.) from Santa Cruz de Teneriffe and 103 sea miles (190 kils.) from Las Palmas. It is $61\frac{3}{4}$ m. (99 kil.) long by $18\frac{3}{4}$ m. (30 kils.) broad, covers 797 sq. m. (2,040 sq. kils.) and contains 10,130 inhabs. spread over one town and 13 villages or hamlets, divided into 8 districts.

The form is long and narrow, especially at the S. end, which terminates in a sandy peninsula, on which is situated the Ass's Ears (Orejas de Asno), 2,770 ft., the highest point of the island, the general plan of which is a sandy, rocky, barren plain, surrounded by a more or less compact wall of extinct volcanoes.

There is less water and consequently less verdure than in any of the seven islands, but what vegetation there is, is exceedingly varied and of the greatest interest to the botanist, having been described as a miniature reproduction of three parts of Northern Desert Africa, the coast of that continent being distant only 68 sea miles (125 kils.) from point to point and Cape Juby being at times visible. There are no forests and very few trees, cultivation depending entirely on rain water and being confined to cereals, cochineal, etc. In spite of the want of fresh-water springs this island grows more wheat in a wet year than all the others put together but, although the population is so scanty, emigration alone enables the inhabitants to survive in a succession of bad seasons. The climate is very dry and, were accommodation available, might be of advantage to some invalids. Cultivation might be greatly extended were advantage taken of the limestone beds running through the island, where undoubtedly water could be found by sinking wells and erecting windmills. Where water is present the soil is fertile enough, and produces good crops of bananas, tomatoes, etc.

As yet no roads have been made and communication is carried on by rough, uncared-for paths, well adapted to the camel or the donkey, the former being always used for long distances.

On the arrival of the Franco-Spanish filibustering expedition in 1402 there seems to have been thick groves of palms

and other trees and much more water. The country was divided by a wall, the inhabitants on either side of which were hostile and warlike in the extreme.

PUERTO CABRAS.—600 inhabitants. East coast; 103 sea miles (190 kil.) from Las Palmas.

An insignificant village situated in an open bay, where passengers are landed in boats. Port charges, one peseta each person; packages extra. A mole is being built but at present passengers are carried ashore. There is a fairly comfortable inn, with four beds; charges, 3s. a day, including wine.

The aspect of the island is uninviting in the extreme. Vegetation is in many instances almost microscopic. Water is scarce, nasty and must often be paid for. The natives live largely on *gofio*, sometimes made from the seed of the barrilla (ice-plant) which is gathered when ripe and baked.

Camels cost from 4s. to 6s. a day.

The chief villages are La Antigua (the old capital), Sta. Maria de Betancuria, with old church, in which the standard borne at the time of the Spanish Conquest is still preserved, and La Oliva, the last being situated in the most fertile, or rather least barren, part of the island. As this is one of the largest of the group, distances from point to point are often very great, but travelling is easy. There are several copious salt-water springs.

A few of the times are: From Puerto Cabras to Oliva, about $3\frac{1}{2}$ hrs.; from Puerto Cabras to La Antigua, about 4 hrs; from La Antigua to Betancuria, $1\frac{1}{2}$ hrs.; from Betancuria to Pájara, on which route there is some rough, wild scenery, about 2 hrs.; from Betancuria to Casillas del Angel, about 5 hrs.; from Puerto Tarrajal to Tuineje, about $2\frac{1}{2}$ hrs.

LANZAROTE.

THIS island lies between lat. $28^{\circ} 50'$ by $29^{\circ} 15'$ N. and $13^{\circ} 26'$ by $13^{\circ} 53'$ W. of Greenwich; is N.E. of Fuerteventura and $2\frac{1}{2}^{\circ}$ W.N.W. of Teneriffe, being 197 sea miles (362 kils.) from Santa Cruz (Teneriffe) and 144 sea miles (283 kils.) from Las Palmas. It is $36\frac{1}{2}$ m. ($58\frac{1}{2}$ kils.) long by $13\frac{1}{4}$ m. ($21\frac{1}{4}$ kils.) broad, with an area of 380 sq. m. (973 sq. kils.) and contains 16,409 inhabitants in one town and 63 villages or hamlets divided into 8 districts.

The surface is less mountainous than that of the Western Islands and there are broad sandy or stony plains, quite as fertile in wet years as those of Fuerteventura. A curious phenomenon, frequently to be observed, are the moving sandbanks, which emerge from the sea, march across a tract of country in the shape of a demi-line and finally disappear in the W.

There are many extinct volcanoes and one group, called the Montañas del Fuego, which were active in 1733, are still so heated that wood will burn in some of the crevices. There were violent seismic disturbances about this time in many parts of the island. The forests are extinct and even the Euphorbia is scarcely seen, the nature of the indigenous plants being not unlike that of those found in the Desert of Sahara.

The southern part of the island is barren and cultivation is almost confined to wheat, barley and the cochineal plant, which depend entirely upon rain for the necessary moisture. In the north there are a few springs but none of sufficient size to be used for irrigating purposes at any distance. Owing to the paucity of water the barrancos are of no depth or beauty. The highest mountain is the Risco de Tamara, 2244 ft. near N.S. de las Nieves. Good white wine is grown, and from 800 to 900 pipes are exported every year. A capital road connects Yaiza on the south with Arrecife on the east and is continued on the N. nearly as far as Haría.

On the N. are the little islands of Alegranza, Montaña Clara and Graciosa and on the S. that of Lobos. None of these are inhabited but all are used by the fishermen at certain times of the year. On Graciosa are some extensive sheds erected for the purpose of drying and curing fish and on Alegranza and Lobos there are lighthouses.

The towns are uninteresting and dirty, and communication is almost entirely carried on by camels, which are also used for agricultural purposes. Charges from 4s. to 6s. a day. Donkeys may sometimes be hired at about $\frac{1}{3}$ of the price of camels.

According to several of the old writers the island was formerly divided into two kingdoms by a wall running N. and S.

It was the first to be victimised to European influence in 1393, when one king alone ruled. So great were the barbarities of the earliest visitors that, when Bethencourt arrived in 1402, only 300 warriors were left.

The people lived principally in circular houses built of stone and surrounded by a wall. These were described as very evil-smelling even by the sailors of the time, accustomed as they were to all the filthy customs introduced and encouraged by the bigoted monks of the middle ages. Glas, writing of the island in 1764, says that most or all of the inhabitants of his day suffered from the itch.

In 1824 a volcano burst through the middle of a maize field near Teguisse but soon quieted down again.

S. Berthelot, about 1825, published a sketch of a piece of wall near Zonzamas, which he believed to have been built by the aborigines or the Phœnicians.

ARRECIFE, 3025 inhabitants, east coast, 31 miles from Puerto Cabras.

Passengers are landed in boats on the quay, which is well protected by a broken range of rocks extending some mile up the coast and serving as a natural breakwater to the numerous ramifications of the harbour. Port charges: Each person, 1 peseta; packages extra.

There is a fairly good fonda with 8 beds; charge, 3s. a day, including wine.

The appearance of the town is eastern and the greater part is extremely dirty and badly built, the houses rarely exceeding one storey in height. The Church is uninteresting and the market, where the cockfights are also held, is poorly supplied with a few vegetables and tomatoes, neither oranges nor bananas being usually procurable.

The visitor is first struck by the number of camels lying or standing about and by the old fort on the right, still connected with the town by a wooden drawbridge. If his time is limited, an excursion can be made by camel to the old capital of San Miguel de Teguisse, $6\frac{1}{2}$ m. ($10\frac{1}{2}$ kils.) on the N. road (1 dollar). A good 4 hrs. must be allowed.

At $1\frac{1}{2}$ m. from Arrecife, the road crosses a startlingly fresh stream of lava running some distance into the island. In the interstices fig and other fruit trees are planted, the moisture beneath the lava being thus utilised, whilst walls are built above the lava as an additional protection from the sun. Numerous villages are dotted on the neighbouring slopes, and in the volcanoes near large holes may be seen, from which cinders



have been extracted and spread about the land for agricultural purposes.

For a long time the road is level, this part of the country being sometimes 5ft. or 6ft. under water when the rain is heavy.

Farther on a hill is climbed and the old castle of Guanapay is seen on the right. Presently the neglected little town of *San Miguel de Teguiise*, 2 hrs., is entered. The Church is quaint and the roof of the sacristy good. There is also a fair picture on the N. side of the choir. The old Convent of Santo Domingo contains an image of the Virgin which is said to have stopped the flow of lava from a mountain near the town in 1824. There are also some tanks on which a large tract of country depends for water during the summer months.

Farther along the N. road is another much revered image, called the Virgen de las Niéves which is said to have left the church during the night to save the crew of a shipwrecked schooner that had implored her aid. She was found in the morning, her robes dripping with sea-water and the doors still locked. The same tale is related of many images, both in the Canary Islands and Madeira.

Still farther to the N., about $15\frac{1}{2}$ m. (25 kils.) from Arrecife, is a village called Haría, situated in a more or less fertile valley (no inn), whence (about 2 hrs. to the N.E.) the celebrated Cueva de los Verdes may be visited, the stronghold to which the ancient inhabitants retreated in cases of invasion. This is said to be the largest lava grotto known. About $1\frac{1}{2}$ hrs. to the N. of Haría is a cliff known as El Risco, 1523 ft., where there is a fine view of the Islands of Graciosa, Alegranza, etc. The extinct crater, known as la Corona, near Haría is 1940ft. high.

Should the visitors' time admit of it, an excursion across country may be made to the W. of the island to the Montañas del Fuego, already mentioned. Time required, from 5 to 6 hrs. each way. A guide advisable. Rough sleeping-quarters may be procured in the vicinity.

The same excursion may be made by the road to Yaiza where there is a small fonda, 14 ms. (22 kils.) The volcanoes are distant from the village about $1\frac{1}{4}$ hrs. About $2\frac{1}{2}$ hours from Yaiza in the same direction is a curious lava grotto, known as the Cueva del Mojon.

A few miles S. of the same village is the Torre del Aguila, a tower built by Bethencourt, near where he landed in 1402.

The Strait known as El Rio, separating Lanzarote from Graciosa, would make by far the best harbour in the Canaries and might easily be fortified. It suffers however from want of fresh water and could never be more than a naval station, as the country in the vicinity produces and consumes too little to afford any freight to merchant vessels.

COMMERCIAL SECTION.

Report on the Condition of Labour and Social and Economical Condition of Madeira and the Canary Islands, together with a Statistical Synopsis for the aid of Traders or Intending Settlers.

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COMMERCIAL SECTION.

THE following is an amended and enlarged version of the author's report on the "Social and Economical Condition of the Canary Islands," presented to the Foreign Office and published by the British Government in 1892. (Miscellaneous Series, No. 246. Reports on Subjects of General and Commercial Interest. Spain.)

Madeira has now been included and the whole corrected and brought up to a fixed date.

The author feels that he ought, in a manner, to apologize to those who are merely visitors for taking up so much space on what at first sight appears to be so insignificant a subject. He therefore asks the reader to remember that Madeira and the Canary Islands, although small, are important strategic stations, both for commerce and for war, and that their climate is very similar to that of a number of undeveloped countries in various parts of the world.

At a time when the labour question is so acute and when there is a wide-spread opinion that human beings will soon

elbow one another into space, it is no loss of time to pass in review the methods of existence adopted by a people who have been crowded out for centuries, more especially when it is taken into consideration that these very methods, applied to other countries, would allow of the latter supporting an equally large, or, as the writer believes, a very much larger proportional population. It has been endeavoured to show how a strong and consistent government could reclaim very large tracts of land, now useless, and to prove, by example, what that land might be made to produce.

Social and Economical Conditions are not considered light reading, but, when the problem presented is confined to a very narrow space, they are much easier to understand than when complicated by an infinity of international relations. In the study of mathematics, for instance, it is usually allowed to be easier to add 2 and 2 and make 4, than it is to do an addition sum of half-a-dozen lines of figures a score deep. The reader may rest assured that, if he choses to take the matter up and read between the lines, he will have no difficulty in discovering the germs of a number of questions bearing on such subjects as currency, land-tenure, customs-tariffs and free *versus* fair trade, etc., as well as on the condition of the labouring classes or the landlord, and the value of the middle-man, questions which he might take up and solve during his leisure time and thereby earn the recognition of a grateful universe.

As regards residents and merchants no apology is necessary. The first are supplied with a good deal of information, which, if inaccurate, has been collected with considerable trouble from the best sources at the writer's command, and the latter may gain a certain amount of insight into the wants of a population, which, though small, is at least larger than the white population of the whole of South Africa.

The necessary figures are specially arranged with a view to the furtherance of British mercantile interest and, incomplete as they necessarily are, will serve as a local basis to measure its future progress or decay, even if they do not fulfil the writer's desire by accelerating the former.

Since the landing of Bethencourt in Lanzarote in 1402 and the final subjugation of Teneriffe in 1496, the history of the Canary Islands has been chiefly interesting as a record of agricultural success or failure. The condition of the labouring as well as of the more educated classes has been so dependent upon the productive power of the soil, that it can scarcely be ascertained without first entering into a critical examination of the value of the soil itself, prior to and since the extraordinary changes which have taken place during the last few years.

Minerals.—Amongst the successive layers of comparatively recent volcanic deposit of which the islands are almost wholly constructed no mineral deposits have as yet been found which would pay for working.

A French company has however commenced to extract *pumice stone* from the base of the Peak.

On the summit of the same mountain there is also a large deposit of pure sulphur which might easily be extracted. A concession has been granted to a company to work 900,000 cubic metres, and three samples, assayed by Mr. Frederic Claudet of London, showed 45.9 %, 98.0 % and 93.1 % respectively. It has been stated that the deposit is even richer than that of Sicily.

As hitherto the industry of mining has played no part in the history of the islands, the following remarks will principally deal with the innate capabilities of the land itself and the various fiscal or municipal burdens which hinder its cultivation directly, or which, by preventing the establishment of manufactories, tend to impede a proper freedom of development.

The *fishing* industry, which is considerable, the state of labour in the *coaling* ports, and the changes brought about by the recent *influx of invalids and visitors* will receive due attention.

PART I.—*Agricultural Epochs prior to 1884—1885 and their Effects.*

Sugar.—But few records are obtainable of the earlier times, but it appears that about 1490 *the Canaries* were at least partly planted with sugar and had entered into competition with Madeira, which was then the principal producer. The large landowners, who were the immediate result of the conquest, employed negro labour, and seem to have made large profits. Lord Verulam (Francis Bacon) writing about 1600, says that being first in an invention “doth sometimes cause a wonderful overgrowth of riches, as it was with the first sugar man in the Canaries.”

No figures are now obtainable to show what these exports were, but there is no doubt that the profits, if not the production, decreased early in the sixteenth century, the islands being unable to compete with the West Indies.

Afterwards, with the exception of a temporary activity due to the vine disease in 1850—52, sugar fell more or less into abeyance. During the last few years a fresh start has been made, and a considerable amount of English and other capital has been ventured (*see* Part III).

In Madeira sugar was at one time by far the most important industry and it is stated that there were 2,700 slaves in the island in 1552. In 1772 Captain Cook said that he found a prodigious number of negroes and mulattos, some slaves and some free, showing that there was a tendency to intermixture between the whites and the blacks. In 1775, when the wine trade took the first place, slavery was abolished. Thus sugar and slavery were closely connected with one another in Madeira as, curiously enough, they always seem to have been elsewhere.

The cane is said to have been introduced from Sicily in 1425. In 1453 the first mill was erected and by the end of the century there were some 120 mills in different parts of the island. About the year 1500 some 35,000 cwt. of sugar seems to have been produced and, although sugar as a crop afterwards practically disappeared, the nunneries of Madeira have remained famous for their sweetmeats until the present day. (For further remarks on sugar *see* Part III.)

The Vine.—Before the close of the fifteenth century the vine was introduced into Madeira and from there into *the Canaries*. The original plants were obtained by Prince Henry of Portugal from the already famous vineyards of Malmsey or Malavesi in Crete.

Up till 1850 this grape continued to grow and fruit freely, but was then attacked and nearly exterminated by the ravages of a fungus known as the *Oidium Tuckeri*. Unfortunately it has been found impossible to replant it and it has been replaced in the Canaries by American and other vines. In Madeira it is still grown budded on to an American stock.

In consequence of the disease the export from the Canaries, which in 1804 amounted to 48,000 pipes and had gradually fallen in 1845-50 to about 22,000 pipes per annum, almost disappeared. Glas stated in 1764 that at that time 15,000 pipes of wine and brandy were exported from Teneriffe alone, chiefly to British North America, and that the trade was in the hands of Irish Roman Catholics.

Owing to the enterprise of a few merchants the trade is again reviving and the export, which was valued at £6,740 in 1884 and at £4,855 in 1885, has now advanced to some £25,000 a year.

Much remains to be done, however, and, were skilful control always brought to bear upon the labourers during the gathering, crushing, and fermenting of the harvest and the quality of spirit added to the wine uniform and good, it is probable that a much larger market might be found. At present, unless the labourers are constantly watched, the sour grapes are crushed together with the sweet and the fermentation is allowed to take place under most unfavourable

conditions. The quality of wine produced by the best houses has, however, for some years, been equal to any made in the palmiest days. Stocks have accumulated largely and it is questionable whether as sound a glass of wine can be procured anywhere else for the same prices as those quoted at present in both Madeira and the Canaries.

The history of the vine in *Madeira* is even more important than that of sugar, as the wine has always represented almost the entire export of the island.

It formed a part of the stipend of the parish priests as early as 1485, but the first mention of shipments was in 1566 when a pipe was officially valued at 3\$200. In 1646 some 2000 pipes seem to have been exported. In 1774, 7073 pipes; in 1790, 13713 pipes; in 1800, 16981 pipes; in 1824, 10980 pipes; in 1851, 7301 pipes; (this was the year when the vines were attacked by the *Oidium Tuckeri*); in 1855, 1776 pipes; in 1865, 536 pipes; in 1873, 2154 pipes; in 1881, 3447 pipes; in 1888, 5870 pipes.

In 1873 the phylloxera appeared and caused immense damage until 1883, when the growers began to obtain the mastery over it. That its effects however were of little importance compared to the ravages of the fungus pest of 1852 may be gathered from a few simple figures. The total exports for the ten years previous to the fungus (1842-52 inclusive) show an average export of 6885 pipes; the average for the ten years following the fungus (1853-62 inclusive) was 1779 pipes, whilst in the next ten years (1863-72), when old wine was becoming very scarce, (see prices down below), the export fell to an average of 991 pipes, the lowest year being 1865 with 536 pipes. Although in the next ten years the phylloxera bug spread everywhere, the average export (1873-82 inclusive) rose to 3793 pipes and in 1883-92 inclusive to 4071 pipes.

Again the expense of combating the fungus is continuous and it has been stated that as much as 32 lbs. of sulphur an acre is necessary. The phylloxera on the other hand seems to be most easily combated by the use of resistant stock, for instance the American vine on to which the special grapes used in Madeira are grafted.

The actual produce of the island is difficult to estimate. Jeaffreson in 1676 computed it at 25,000 pipes, and it is stated to have reached as much as 30,000, though probably the highest during the present century was about 22,000. At present it is estimated at about 7000 and it is expected to increase. Porto Santo, which never suffered from the phylloxera, produces from 800—1000 pipes.

The fluctuations in price, taking "London Particular" as a standard, have been as follows. In 1778, £27 per pipe; in

1798, £40; in 1816, £77; in 1826, £46, at which price it remained until 1852. A great rise followed the destruction of the vintage, the year of highest price, viz. £75, being reached in 1865, which was also the year of least exportation. It then gradually fell until in 1885 it was £38, at about which price it was quoted in 1893.

Remarks on the modern methods of treating the grape, etc., will be found in Part III.

* *Cochineal*.—Next in importance to the vine is cochineal, which was originally brought to *the Canaries* in 1826 and met with great opposition from those who were afraid that this new and loathsome form of blight would spoil their prickly pears; in fact in the previous century it was forbidden to land cochineal at all. Prejudice was overcome, and it was found that the *Cactus opuntia ficus indica* (locally, *tunera*), which grows freely in the islands, was the best adapted to the insect's wants; also that the cheapness and abundance of labour and the climatic conditions allowed it to be produced more plentifully and of better quality than elsewhere. Elsewhere had previously been Mexico, Honduras, and Guatemala. In 1814, 176,259 lbs. were sold in London at about £1 16s. per lb.; in 1820, 158,840 lbs. at about £1 5s. 6d. per lb.; in 1830, 297,985 lbs. at about 10s. 6d. per lb.

The first shipment from the Canaries was in 1831, and consisted of 8 lbs., which in 10 years had increased to 100,566 lbs.; in 1850 to 782,670 lbs.; in 1860, when fuchsine was first chemically known, to 2,500,000 lbs.; and in 1869 to the highest total of 6,076,869 lbs., with a value of £789,993, the medium price for that year in the market at Grand Canary being 3.25 pesetas per lb.

The population at this period was about 270,000, so that cochineal alone produced a revenue of about £3 5s. to every man, woman, and child in the place.

All the aniline dyes were discovered by this time, but were not commercially manufactured to such an extent as to seriously interfere with cochineal. The islanders, however became somewhat alarmed at the price and began to talk about over-production and the means of preventing it.

In 1874 the crisis had reached a more acute stage, and the price in the London market went down to from 1s. 6d. per lb. to 2s. per lb. The export in this year was from—

| | | | | | | Lbs. |
|--------------|-----|-----|-----|-----|-----|-----------|
| Teneriffe | ... | ... | ... | ... | ... | 2,270,138 |
| Grand Canary | ... | ... | ... | ... | ... | 2,531,176 |
| La Palma | ... | ... | ... | ... | ... | 198,895 |
| Lanzarote | ... | ... | ... | ... | ... | 88,530 |
| Total | ... | .. | ... | ... | ... | 5,088,745 |

In order to combat the fall a company was formed in Orotava with a capital of £12,000 (Union Agrícola de Tenerife) with the avowed object of placing the cochineal on the market by degrees. Its methods were immediately denounced as commercially unsound by an Englishman, Mr. George C. Bruce, almost the only man who seems to have kept his head. The company in their turn denounced Mr. Bruce, and in May, 1874, heroically defied all the machinations of the market wire pullers and the competition of any other dye as a rival to cochineal. Mr. Bruce's answer was a journey to Belgium, followed by statistics of the production of aniline at the date, namely about 95,000 cwts. a year, at the price of 2 fr. 50 c. per kilo.

The result was, of course, a foregone conclusion. The company was unable to fight the rest of the world and, in spite of defiance, the price and production gradually diminished until in 1882 the latter was 4,840,262 lbs. and in 1886 2,330,947 lbs.

The manufacture of aniline dyes received a sudden impulse in 1879, owing to the tropical rains which gave rise to rumours of a short cochineal crop, causing the price to jump from 2.45 pesetas to 3.62 pesetas, and even more.

The damage was exaggerated, but the evil was done. The merchants who congratulated themselves upon the ready sale of their old stock at enhanced prices were astounded and in most cases ultimately ruined by the fall which ensued, the best qualities of dried insect going as low as 10d. and 11d. per lb.

Some recovery has taken place now that it is known that cochineal is after all the only red dye which satisfactorily resists hard wear and heavy rain, but the output for 1890 was only valued at £60,940.

Cochineal still remains one of the principal exports, because it is easy to cultivate; because the cactus grows in situations unsuitable for other plants and because the total of exports had fallen from £845,390 in 1869 to as low as £224,000 in 1884.

Effects of the boom in cochineal.—The economical results of the cochineal culture are yet widely felt in the islands, and have so great an influence that it is impossible to pass them over in a review of general progress.

Immediately after the collapse of the wine trade the owners of land found themselves face to face with an unsuspected mine of wealth which enriched them almost without an effort on their own part. Everyone shared in the golden shower. The peasant was able to gain as much as 2 pesetas a day and his wife and children to find constant employment at equally remunerative rates. The merchant and the shipper benefited by a state of affairs where the commonest coin was the gold ounce (£3 4s.), and the expenditure of all classes rose by leaps and bounds.

The price at first was about 10 pesetas per lb., but, fast as the export grew, the market widened. It is true that the quotation gradually sank to 5·12 pesetas in 1849, and 3·25 pesetas in 1869, but the producers were justified in thinking that a fair but remunerative limit would at length be permanently reached. The gross profits were larger than ever and it appeared as though the gold mine was inexhaustible.

Land was unpurchaseable and everyone wanted to buy. Old streams of lava were broken up and built into walls in order to expose the ancient soil below; hills were terraced where terraces could be made; property was gladly mortgaged at any percentage in order to build new fields, with the certainty that the loan would soon be wiped off. What the cost of all this was can never be known; the labour in many instances was enormous in proportion to the superficial results and it is questionable whether any other country can show farms which, foot for foot, have entailed so much wear and tear of sinew and muscle.

Crowds of dealers were only too glad to buy the cochineal and to employ their capital or credit by storing it. The landed gentry ordered expensive furniture, silver-mounted saddlery and other costly goods from Europe, or spent their time in general dissipation.

Retribution was swift, sudden, and universal. Aniline dyes took the public taste and left merchants loaded with stocks which never ceased to fall; money lenders with heavy mortgages on comparatively worthless property; resident land owners insolvent, and a peasant population temporarily demoralised by high wages and easy living.

The English have been reproached as being the only gainers by cochineal in the end. How this can be is not apparent. It is true that the dye was sold chiefly in London, but it has long since disappeared. On the other hand, some of the furniture and saddlery still exist, though a little out of repair; the fields which were largely constructed on English capital have not vanished and, after all, it was not the fault of Great Britain if extravagance and waste left nothing but a memory of better things, instead of a number of fat kine to tide over the somewhat dismal period to follow.

Below a certain altitude cactus was planted in every corner, so that grain and most necessities were constantly imported, and now the bewildered farmer found he must either root the cactus up or starve.

Attempt to replace cochineal by tobacco.—What little had been saved was wasted in building sheds for the drying of tobacco, which began to take the place of cochineal. A commission was appointed to the islands by the home Govern-

ment with the object of fomenting the new industry, but the encouragement it gave proved to be a misfortune. As in the case of sugar, the islands could not compete with America, and tobacco had to be abandoned.

Utter ruin caused by cochineal.—That riches should lead to poverty seems absurd and paradoxical. However, to give one instance. In 1885 a gentleman from the West Indies built a sugar factory in one of the most productive parts of Teneriffe, and not only planted sugar himself but induced all his neighbours to do so as well. Before any work could be done he came to an end of his resources and left without paying his rent. The owner of the property was a large land owner in this and other parts of the island; sugar can only be planted on irrigated land, which is naturally the best, and those who had planted were therefore by necessity the principle men of the neighbourhood. The factory was practically completed and little outlay beyond coal was needed to set it going, and yet the machinery was allowed to rust, and the sugar, which was just coming into bearing, was grubbed up, because the pecuniary position of the planters would not allow them to speculate by growing a crop of which the return might be temporarily delayed, or of which the ultimate result was in the least problematical.

That such a pitiful condition was mainly caused by the excessive profits derived from cochineal is scarcely to be doubted. The steady and sure gains in the wine trade gave no room for extravagance and, though each has benefited the islands, it has been in quite a different way.

Development of land caused by cochineal.—The cochineal, growing as it did near the coast, caused a great area to be brought under cultivation which was formerly worthless; for instance, the slopes above Santa Cruz in Teneriffe. The land so reclaimed, however, was not paid for when the collapse came, and left a load of debt which greatly impeded development for years to come.

The fairest monuments of the wine trade, on the other hand, are those cool, spacious old houses, whose roomy balconies and broad staircases look down into a shady "patio" or yard, and which stand in reproachful contrast to the buildings run up at a time when everyone was anxious to be rich. There are a few exceptions to the rule, but taking it all in all, the modern village or small country town is little more than a collection of mud huts, daubed with lime, and the degradation of art in the Canaries is largely to be attributed to the utilitarian style of architecture adopted in the cochineal times by choice and continued by habit or necessity afterwards.

Increasing value of land.—The land which owes its existence

to cochineal is now largely planted with tomatoes, etc., and, if it ever rises to the value of its original cost, it will be because of the fruit and vegetable trade, started and fostered by English men and maintained entirely by the English demand.

Cereals, etc.—The crops which have allowed the islands to recoup themselves a little have been cereals, which in good years are exported in considerable quantities from the islands of Fuerteventura and Lanzarote; potatoes, which can be planted more extensively than any other vegetable, and onions which, as well as potatoes, have always found a ready sale in the West Indies. Bananas, tomatoes, oranges, etc., have only recently been shipped, and are as yet on their probation. Figures, and information from which the probable net yield of various crops may be estimated, are given as far as possible later on.

Resumé of agriculture in the past.—Briefly, then, it is found that since Europeans have been in the Canaries, the crops giving the most lucrative results in a given space of time have been sugar and cochineal. Of these the former has not so far been able, under equal conditions, to compete with the West Indies. The latter may be regarded as virtually superseded. The vine was never more than a moderate source of profit, but that profit was a just one and caused the welfare of all classes. Tobacco has never been of importance and the mainstay in times of distress has been found in those annual crops which are the first to which an emigrant or needy man turns his attention.

Madeira.—In Madeira conditions have been somewhat different. The climate is not dry enough for cochineal and wine has, roughly speaking, always been the chief article of export. As stated above, the cultivation of the vine has little of the speculative element in it and land laid down as vineyards does not yield a sudden profit, giving rise to unduly extravagant habits. Reclamation of land in Madeira has therefore been undertaken on a more stable basis. It is true that the fungus disease of 1852 caused the ruin of many, but this must be regarded as an accident, which no forethought or calculation can provide against.

The ultimate revival of the wine trade may be looked upon as a certainty in all the islands; the fruit trade is also founded on a fair and proper basis, but whether the temporary fiscal regulations, which foster a hot-house industry such as that of sugar, will ultimately be of benefit to the islands, is a question on which one may reasonably have some doubt.

A certain amount of the revenue of Madeira is due to the export of sweet potatoes, vegetables, etc. to Demarara and the West Coast of Africa, in the same way as the Canaries find a similar outlet for the same products in the West Indies, etc.

NUMBER and Tonnage of Steam Vessels entering the Ports of Santa Cruz (Teneriffe) and Las Palmas (Grand Canary), and with a statement of the Quantity of Coals supplied to them.

TENERIFFE.

| Year | Coasting Trade | | British | | Percentage of British | | All Nations | |
|------|----------------|--------|----------------|----------|-----------------------|-----------------|----------------|-----------|
| | No. of Vessels | Tons | No. of Vessels | Tons | No. of Vessels | Tons | No. of Vessels | Tons |
| | | | | | <i>Per Cent</i> | <i>Per Cent</i> | | |
| 1884 | ... | ... | 195* | 263,700* | 45 | 58 | 429 | 457,000* |
| 1885 | ... | ... | 206 | 278,560 | 44 | 55 | 465 | 501,382 |
| 1886 | ... | ... | 246 | 317,669 | 43 | 51 | 553 | 620,229 |
| 1887 | ... | ... | 250* | 395,000* | 46 | 48 | 542 | 843,440 |
| 1888 | 51 | 12,904 | 310 | 444,238 | 47 | 47 | 666 | 948,802 |
| 1889 | 158 | 41,696 | 349 | 549,375 | 48 | 49 | 733 | 1,118,652 |
| 1890 | 178 | 40,432 | 350 | 575,000 | 46 | 48 | 766 | 1,204,036 |

GRAND CANARY.

| Year | Coasting Trade | | British | | Percentage of British | | All Nations. | |
|------|----------------|---------|----------------|------------|-----------------------|-----------------|----------------|------------|
| | No. of Vessels | Tons | No. of Vessels | Tons | No. of Vessels | Tons | No. of Vessels | Tons |
| | | | | | <i>Per Cent</i> | <i>Per Cent</i> | | |
| 1884 | ... | ... | 160* | 264,000* | 68 | 52 | 238 | 505,000* |
| 1885 | ... | ... | 220 | 263,000 | 66 | 50 | 336 | 725,000* |
| 1886 | ... | ... | 369 | 600,500* | 72 | 63 | 506 | 950,000* |
| 1887 | ... | ... | 414 | 680,000* | 63 | 61 | 660 | 1,103,700* |
| 1888 | 51* | 12,904* | 539 | 890,977 | 59 | 59 | 912 | 1,505,089* |
| 1889 | 158* | 41,696* | 601 | 1,360,000* | 59 | 56 | 1,022 | 2,432,000* |
| 1890 | 178* | 40,432* | 718 | 1,635,000* | 57 | 56 | 1,263 | 2,918,570* |

TOTAL.

| Year | Total of both Groups | | Coal Supplied | | | Remarks. |
|------|----------------------|-----------|---------------|--------------|---------|--|
| | No. of Vessels | Tons | Ten'riffe | Grand Canary | Total | |
| | | | Tons | Tons | Tons | |
| 1884 | 667 | 962,000 | 28,924 | 6,700 | 35,624 | Telegraph cable laid to Cadiz early in 1884, and extended to Senegal in December, 1884. Cholera in France. |
| 1885 | 801 | 1,226,382 | 33,963 | 18,390 | 52,353 | Prolongation of Santa Cruz mole commenced. |
| 1886 | 1,059 | 1,570,229 | 38,046 | 38,827 | 76,873 | Harbour works, Grand Canary, rapidly advancing. |
| 1887 | 1,202 | 1,938,140 | 53,277 | 73,070 | 126,347 | The interinsular service of steamers commenced running in September. |
| 1888 | 1,080 | 2,479,699 | 76,913 | 136,188 | 213,101 | |
| 1889 | 2,071 | 3,634,044 | 101,432 | 166,341 | 267,773 | |
| 1890 | 2,385 | 4,203,470 | 107,519 | 226,400 | 333,919 | |

NOTE.—The figures marked with an asterisk could not be obtained, but are probably nearly correct.

TABLE showing Percentage of Steamers entering the Under-mentioned Ports.

| Ports. | Spanish. | | French. | | German. | | Remarks. |
|-----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--|
| | No. of Vessels. | Tons. | No. of Vessels. | Tons. | No. of Vessels. | Tons. | |
| | <i>Per Cent</i> | <i>Per Cent</i> | <i>Per Cent</i> | <i>Per Cent</i> | <i>Per Cent</i> | <i>Per Cent</i> | |
| Teneriffe, 1885 ... | 15 | 9 | 19 | 28 | 5 | 6 | The movement of sailing vessels, most of which are coasters, calls for no remark except that the number of entries has fallen from 1,939 in 1885 to 1,583 in 1890. |
| Teneriffe, 1890 .. | 14 | 11 | 20 | 19 | 17 | 17 | |
| Grand Canary, 1885... | ... | ... | 1 | 1 | 1 | 1 | |
| Grand Canary, 1890... | ... | ... | ... | ... | ... | ... | |

In 1850, the last year of the wine trade, the number of vessels calling at Teneriffe (only) were 15 steamers and 262 sailing vessels, with a tonnage of 32,697 tons.

In 1852, 79 steamers (50 English and 13 French) and 195 sailing vessels with a tonnage of 40,725, whilst 1,738 tons of coal were supplied.

In 1869, 86 steamers (72 English, 55,655 tons; and 12 French, 4,307 tons) and 142 sailing vessels (50 English, 10,147 tons; 20 French, 5,383 tons; and 5 German, 1,019 tons), and a delivery of coal of 4,837 tons.

The above figures do not include coasting or fishing vessels which were then all sailers, and averaged some 600 or 700 a year, with a tonnage of 30,000 to 50,000 tons.

Resumé. It will be seen from the table of shipping returns that, including the coasting service, which is a great boon and runs at frequent and regular intervals, the number of steamers calling at Teneriffe in 1890 as compared to 1885 was as 220 to 100, and in Grand Canary as 605 to 100.

The German carrying trade shows the greatest proportional increase, but the British has been well maintained, and is at 45 per cent. to 53 per cent., against a total growth of 280 per cent.

NUMBER and Tonnage of Steam Vessels entering the Port of Funchal, Madeira, with a statement of the quantity of Coals supplied to them.

| Year | British | | Percentage of British | | All Nations | | Coal Supplied |
|------|----------------|---------|-----------------------|------|----------------|-----------|---------------|
| | No. of Vessels | Tons | No. of Vessels | Tons | No. of Vessels | Tons | Tons |
| 1886 | ... | ... | ... | ... | 618 | 887,497 | ... |
| 1887 | 360 | 528,992 | 60% | 64% | 596 | 827,674 | 57,078 |
| 1888 | 371 | 499,264 | 57% | 56% | 653 | 888,660 | 59,410 * |
| 1889 | 405 | 598,587 | 59% | 60% | 693 | 1,002,770 | 80,335 † |
| 1890 | 390 | 606,683 | 60% | 60% | 645 | 1,023,708 | 67,574 |
| 1891 | 356 | 630,068 | 60% | 64% | 588 | 987,441 | 68,935 ‡ |

* Tonnage and anchorage dues taken off for a term of five years.—Loo Rock connected with the shore by the Pontinha breakwater.

† German vessels 141, with tonnage 196,789.

‡ German vessels 73, tonnage 102,917.—Increase of British tonnage due to increasing size of Cape Mail boats.—Pier completed at entrance of town.

TABLE showing Percentage of Steamers entering Madeira.

| Years | Portuguese | | French | | German | | Belgian | |
|-------|----------------|------|----------------|------|----------------|------|----------------|------|
| | No. of Vessels | Tons | No. of Vessels | Tons | No. of Vessels | Tons | No. of Vessels | Tons |
| 1887 | 11% | 11% | ... | ... | 19% | 18% | 6% | 6% |
| 1888 | 11% | 10% | ... | ... | ... | ... | 6% | 7% |
| 1889 | 9% | 9% | ... | ... | 20% | 19% | 7% | 7% |
| 1890 | 11% | 15% | ... | ... | 16% | 14% | 7% | 7% |
| 1891 | 12% | 11% | ... | ... | 12% | 10% | 7% | 8% |

Resumé.—It will be seen from the above that the vessels entering Madeira have fallen from 618 in 1886 to 588 in 1891 and that the coal supplied to vessels tends rather to decrease than otherwise. In the Canaries, on the other hand, the increase under both heads is abnormal.

It is scarcely possible to think that such a state of affairs can be viewed with equanimity by the Portuguese government. They must realize, sooner or later, that it is detrimental to their interests to allow so important a part of the Kingdom to suffer permanently through having to compete with neighbouring foreign ports on unequal terms, and that it would be of great advantage to Madeira were it declared a free port in every sense of the word. That the Spanish government will ever adopt such a suicidal policy as to reimpose restrictions on the trade of the Canaries is most unlikely.

PART II.—*Actual Condition of the Islands and Possible Effects of Novel Circumstances on the Future of Agriculture.*

HAVING passed in review the gains and losses of former years a fair general idea may be formed of the capabilities of the islands had circumstances remained unchanged.

Two factors, however, have now to be reckoned with. One is that the soil has been distributed amongst a great many hands by the abrogation of the law of entail and by the dispossession of the clergy.

Readers must draw their own conclusions as to the benefit of these acts by examining the emigration returns and the statistics of taxation, but no comparison can be made with what might happen in England, as, whatever may be the case at home, the large landowners in the islands never seem to have seriously endeavoured to improve either the agricultural implements or the breed of live stock, whilst the lodging and clothing of the poorer classes were and are a matter of entire indifference to them. Too much has always been left to the Government, and individual high-mindedness and patriotism have been rare, whilst the duties of rank and station have never been properly recognised by the upper classes.

The second factor, and, from an English point of view, by far the most important, is the extraordinary growth of late years in the means of communication with other countries.

To fully appreciate this the accompanying table of shipping movements should be studied, from which it will be seen that in Teneriffe and Grand Canary together 412 ships called in 1890 where 100 called in 1885, and that 640 tons of coal were delivered in the latter against 100 tons in the former, showing that the increase in shipping, great as it is, is only two-thirds that of coal. That Madeira should have failed to keep pace with the above figures does not affect the present question, as steamers calling at the Canaries for fruit, etc. are only too glad to call at Madeira as well if freight can be given them. Besides this the ships which do call in Madeira are both quicker and larger than they were a few years ago and offer all the facilities required.

Apart from the matter of freight the statistics give valuable evidence of the popularity and fitness of the islands as great Atlantic coaling stations and as a half-way house between the old and the new world; for coal, and coal alone, is the reason why most of the ships call at all.

Both the Canary ports have been declared by the Spanish Government as of first importance and, though it is true Canary has advanced infinitely more than Teneriffe, it is equally certain that both are sure to advance in the future to a point

hitherto undreamed of, unless coal should be replaced by some less bulky fuel.

The competition of a number of coaling stores and the confidence in a constant and unlimited supply continue to attract fresh lines of steamers on their way from Europe to the West Indies, South America, the Cape and Australasia. As the population and requirements of these countries augment so must the need of these and other coaling harbours increase.

It is a well-known axiom that trade will follow the flag, and consequently it is not to be wondered at that England holds the first place among both imports and exports. German shipping and German trade have also much increased of late years, but the full figures of imports and exports for the same period not being obtainable, a critical analysis of the reasons can only be made at some future date by means of the careful preservation of the forthcoming returns.

The British flag being that most commonly seen in these waters it is found that the wealthiest and most enterprising commercial houses are British too and that the coasting steamers are largely employed in gathering together produce which goes to the British market.

It must also be remembered that all the colliers leave the islands in ballast and that many return directly to England and would be only too glad to take cargo if they could get it.

Fruit.—It is entirely owing to this growth of rapid communication that the trade in perishable fruit has been brought into existence. What the progress of this trade may be depends largely upon the facilities of storage, etc., which the shipping companies may be induced to offer it, and it must be remembered that should ships be specially fitted up for the new export of fruit from South Africa, the same ships must necessarily take in coal either in the Canaries or at Madeira. At present under somewhat adverse circumstances its growth has been both rapid and considerable and, from its influence on the value of land and the condition of labour, its future forms an interesting subject for speculative thought.

Hitherto it has been found most advantageous to ship fruit to Liverpool and London, a comparatively small quantity going to Spain or Portugal, and the French trade being prevented by the want of energy on the part of steamship companies running thither and by the heavy railway and market charges. The demand for Germany is small and limited practically to potatoes.

A small amount of fresh vegetables goes to the West African Coast and there is, of course, a constant demand for the ships. Potatoes and onions have been largely shipped to the West Indies by sailing vessels almost as long as the potatoe has been known and a temporary trade in early potatoes was

carried on in the same manner with England many years ago.

It is, however, only recently that the Canaries have become an early market garden for Northern Europe, earlier by several weeks than either Malta or the Channel Islands. The remarks upon communication may be aptly supplemented by a list of the various European ports with which the islands are in direct homeward touch.

| | | | | <i>Canaries.</i> | | | | <i>Madeira.</i> | | | |
|-------------|-----|-----|-----|------------------|-----|-----|-----|-----------------|--|--|--|
| | | | | Days. | | | | Days. | | | |
| Liverpool | ... | ... | ... | 7 | ... | ... | ... | 6 | | | |
| Plymouth | ... | ... | ... | 5 | ... | ... | ... | 3 | | | |
| Southampton | ... | ... | ... | 6 | ... | ... | ... | 3 | | | |
| London | ... | ... | ... | 6 | ... | ... | ... | 5 | | | |
| Havre | ... | ... | ... | 6 | ... | ... | ... | | | | |
| Bordeaux | ... | ... | ... | 5 | ... | ... | ... | — | | | |
| Cadiz | ... | ... | ... | 3 | ... | ... | ... | — | | | |
| Marseilles | ... | ... | ... | 6 | ... | ... | ... | — | | | |
| Barcelona | ... | ... | ... | 5 | ... | ... | ... | — | | | |
| Gibraltar | ... | ... | ... | 3 | ... | ... | ... | — | | | |
| Hamburg | ... | ... | ... | 7 | ... | ... | ... | 6 | | | |
| Lisbon | ... | ... | ... | — | ... | ... | ... | 2 | | | |

and, subject to delays, at the above-mentioned ports with Glasgow, Rotterdam, Antwerp, Flushing, Genoa, Valencia, Malaga, Oran, and Tangiers. A line of steamers also runs directly from the Canaries to the Morocco Coast.

Apart from the fruit trade commerce generally is facilitated by the fact that either steam or sailing vessels place the islands in constant and intimate relationship with Australia and New Zealand, the eastern ports of South and North America, the West Indies, the whole African Coast from Mozambique to Oran, and nearly all the European ports from Genoa to Christiania and Stockholm.

It is not unreasonable to suppose that as the population of the remote parts of the earth increases so will the number of ships increase which call at these islands.

In any case the distance in point of time between here and Europe is constantly diminishing and every day gained is of vital importance to countries whose source of wealth, as previously stated, has been and must always remain in the wonderful fertility of its soil.

High roads, etc.—As regards the Canaries a third, but less important, factor is that during the last 45 years some 200 miles of excellent high road have been constructed and that plans for the extension of the same have been approved by the Government. It is needless to say that the facilities for sending fruit quickly to Europe must necessarily be seconded

by the means of placing that fruit in an undamaged state on board of the steamers, a result which is scarcely possible when it must be carried hurriedly for long distances on the backs of men or animals and along rough bridle roads.

In Madeira there is only one road, which is of no commercial value. Fruit is therefore chiefly grown in the neighbourhood of Funchal.

In all the islands small steamers now ply from port to port and there is no doubt that this will largely add to the area of the land devoted to the foreign fruit trade.

Harbours.—The improvement in the harbours has also contributed towards the same end. Steamers up to 1,500 tons, engaged in the fruit trade, are now habitually warped alongside the mole, both in Teneriffe and Grand Canary.

The prolongation of the mole in Santa Cruz practically commenced in 1885. In June, 1893, it had attained a length of 420 metres with a depth alongside in places of about 60 ft. The harbour works of Puerto de la Luz in Grand Canary were commenced somewhat earlier, are nearer completion, and when finished will have a superficial area of 286 acres, with a depth of about 45 ft. near the mole. In Madeira the Pontinha breakwater allows boats to be loaded in rough weather without wetting the fruit.

Railways.—No railways have been built in the Canaries but a steam tramway now runs from Las Palmas to the Puerto de la Luz ($3\frac{1}{2}$ m.), and it cannot be many years before some species of economical tramway connects the towns of Santa Cruz and La Laguna, Teneriffe, such a means of communication being much needed, owing to the steepness of the road, which rises 1,840 ft. in 6 m.

Surveys have been completed for the construction of a narrow gauge railway from Santa Cruz to Orotava, a distance of 42 kiloms. (27 m.) by road. The cost has been stated as about 14,000 dol. per kilom. The gradients must necessarily be steep.

In Madeira there is a railway up to Mount Church, 3,000 metres long, with a gradient of $20\frac{8}{10}\%$. The material was procured from Belgium and the rolling stock from Germany.

Submarine Cables.—By inducing the stoppage of vessels to coal the telegraphic facilities have been to some extent the cause of all the modern innovations. A submarine cable was laid from Cadiz to Teneriffe in 1883-84 by an English Company (the Spanish National Submarine Telegraph Company.) The same company laid a cable from Teneriffe to Senegal in December, 1884, and another from Senegal to Pernambuco in 1892, thus making the Canaries an important half-way station.

Cables are laid from Teneriffe to Grand Canary and Lanzarote on the east and La Palma on the west. The inland communication requires extension.

Madeira was connected in 1874 with Lisbon, the Cape de Verde Islands and Brazil. The Lisbon and Cape de Verde cables have since been duplicated, and a submarine cable has recently been laid to the Azores.

Resumé.—In conclusion and in order to give an accurate idea of the present position the following deductions may be drawn. The soil in *the Canaries* remains as it was at the time of the collapse of cochineal, and the small amount which has gone out of culture, such, for instance, as some of the unirrigated southern slopes, could soon be reclaimed at far less cost than before. Were the re-forestation of the islands and the distribution of the water carried out on broad and liberal lines, there is no doubt that not only this waste land would become of value, but that places which are now planted with comparatively worthless crops, might be made to yield a good return from the vine, the olive, the almond, or other plants which do not require much moisture.

The prickly pear, the eradication of which in Australia is an expense to the State, is here easily kept in subjection, and the working of the soil can only be compared to the care bestowed upon market gardens in England.

This close and productive manner of tilling the ground is the result of the subdivision of the land, of the density of the population, and of the admirable characteristics of the labouring class, and is, of course, an important adjunct in the cultivation of tomatoes and other vegetables.

The peasant class supports itself and the gentry. Both men and women are temperate and good workers, but, owing to the marked social distinction maintained between them and the bourgeois and titled families, have not, as a rule, sufficient sympathy with their masters to continue labouring without the constant supervision of an employer or overseer. They are also careless and ignorant in the extreme, and their want of foresight is a great hindrance to the full development of such industries as the wine, fruit, or dairy trade, even when working on their own account. However, such as they are they are an admirable instrument in the hands of those capable of utilising them, though the attention they demand prevents the conduct of operations on so large a scale under one head as would otherwise be possible.

The same remarks apply more or less to *Madeira*, but, as might be imagined from previous remarks, little or no land has gone out of cultivation, unless one includes poor wheat land which has been planted with pines, because the latter are

found to yield a better return. The Madeira peasant is also a more careful, a more long-headed and consequently a more permanently industrious man than his cousin in the Canaries. He is also much more thrifty and more easily kept in order.

Foreigners engaging in agriculture.—Strangers farming here will find themselves regarded in the light of competitors by the gentry, who have unfortunately imbibed the very erroneous idea that in order for one man to make money some one else must lose it. He will also find himself at a disadvantage as compared with them when buying or hiring land, and labourers will work, as a rule, better under the eye of one they have been born and bred to respect and look up to, than under that of a foreigner, whose new-fangled ways and improvements they quietly oppose or fail to understand, and whom they are taught to regard as an interloper to be exploited for the benefit of the islands. In Madeira the *bemfeitoria* system and the distribution of property into minute areas, practically prevent the foreigner from farming at all.

As merchants the English are the most successful in all ways, and their quiet and steady persistence has earned for them a good deal of admiration and possibly a good deal of concealed dislike from those who seem less fortunate, or at least cannot achieve the same results.

A tribute should, however, be paid to the graceful courtesy and flattering consideration with which they, as well as any other foreigner, are invariably treated.

In conclusion, if the foreigner is at some light disadvantage on this side he is better able to gauge the requirements on the other and more capable of availing himself intelligently of the means of communication which have sprung up.

He should possess a certain amount of capital; must learn to speak the language, which can be done in three or four months; should know something about business, bookkeeping and shipping, and should be specially informed on the special enterprise he means to undertake.

PART III.—*Some Indications of the Capabilities and Value of Land in Different Positions.*

Those desiring to emigrate must determine whether the very great price of land in Madeira and the Canaries, as compared with that in many of our own colonies, is compensated for by the products which the present or future propinquity of the base of operations to the great European markets allow or will allow to be grown at a profit; by the cheapness of labour, consequent upon the large population, and by the gain of some 12 per cent.

to 15 per cent. (1892) in the exchange of English money into currency by means of which debts for land or labour are discharged.

Owing to the rapid incline, often 16 per cent., at which the cultivated coast lands rise towards the hills, narrow zones or belts are formed, each of which is more adapted to one culture than another. These zones may be said to be divided by irregular isothermal lines which approach or separate in accordance to the steepness of the incline or the atmospheric conditions induced by the contour of the immediate neighbourhood. Under equal conditions the fall in temperature is about 1° Fahrenheit to every 300 ft., and the fall in the barometer 1 inch for every 1,000 ft.

On the nature of the product of any particular zone the value of land within it greatly depends. Other considerations are: firstly, whether it is irrigable or dependent upon rains and, if the former, then on the quantity of water obtainable and the size and value of the tanks and means of storage and distribution; secondly, the nature of the soil itself; and thirdly, its communications with the outside world. The question of taxation is dealt with elsewhere.

On irrigable land in *the Canaries* the planting of tomatoes in a good year no doubt gives the best return, but it is too much of an experiment so far and too uncertain of continuance to have formed a secure basis for valuation. Bananas, when planted sufficiently closely, are also remunerative, but the best standard to adopt is that of maize. If land does not show a profit on two crops of maize a year (see figures farther on) it is best to leave it alone, as the rent that is asked must be too high. Sugar does not seem to be a very paying crop at the prices given by the mills. These prices will, no doubt, have to be raised.

On unirrigable land the staple crops are cereals and beans, only one crop of wheat or barley being obtained per annum as compared with two, three, or even four of potatoes, maize, tomatoes, etc. However, water need never be purchased and, at the usual altitude at which wheat etc., is grown, every crop is a certainty. The price in (1892) was about £2 7s. per quarter of 480 lbs. The yield is probably always under-estimated in order to escape taxation, but the worst arid land probably produces from twelvefold to twentyfold, good land high up fiftyfold, and it is said that on a good year in Lanzarote and Fuerteventura as much as two hundred and forty fold has been gathered. The prices of cereals show a tendency to fall, the attention of importers having been attracted of late to the foreign markets.

Wheat land is generally situated at from 1,600 ft. to 2,300 ft. above the sea, the irrigated lands below being planted with

crops which mature more quickly. At its best it might cost £30 to £40 per fanegada.

Irrigated land in such a situation as the valley of Orotava might sell at the following prices: 1st class, £150 to £200 per fanegada; 2nd class, £100 to £120 and very much lower for indifferent or unirrigated soil. Including water rights, which must be separately mentioned in the deed of conveyance, the prices might be even higher. In such a locality as Telde, where there is a sugar-mill, good irrigated land with plenty of water might fetch from £20 to £30 a fanegada per annum.

In *Madeira* sugar-cane fetches a far higher price and is probably more remunerative than the vine, to which it affords a good alternative if rotation is thought necessary.

Irrigable land is generally planted with vines trained in trellises, underneath which vegetables and even maize are cultivated. Unirrigable land is planted with vines, cereals or pine trees. Owing to the ignorance of the peasants such land has become greatly impoverished and wheat rarely returns more than 12 bushels an acre, rye even less and bearded wheat only gives an eight or ninefold return.

Owing to the *enfiteoria* system it is almost impossible to buy or hire land, so that it is difficult to give any basis for prices. The government valuation however at which proprietors are confiscated for expropriation is:—for corn land 100 reis per sq. metre; market gardens, 180 reis; vineyards, 240 reis; forest land, 40 reis; first class pasture, 60 reis; inferior pasture, down to 8 reis. A proprietor may appeal against this valuation if he wishes.

No owner of waste land is inclined to sell to foreigners at spot prices because of the idea that, by their greater knowledge, they will turn it to some good account, the holder preferring that a neighbour should be the seller and allow him to copy the methods of the astute stranger and make the gains himself.

This timorous feeling is a great bar to the progress of the islands, as it prevents the acquisition on reasonable terms of tracts of country or of forest land, which might be made to yield some small return, but which remain useless because the owner clings to them and yet is unable to derive any benefit from them personally.

Mortgages.—Loans on land should return from 7% to 10%, not more than 50% of the face value being lent.

Popularity of land as an investment.—One reason for the dearness of land is that those who have saved money in the islands, or who have emigrated and been fortunate, know of no other investment than houses and land. The few wealthy people have no idea of distributing their money in various countries, or of undertaking works of public utility on a large

scale where a certain amount of risk is encountered. Unfortunately they do not even care to plant timber as a source of future wealth, and prefer to hold land which gives hand to mouth crops and perhaps only returns them a very low rate of interest, or to lend money on mortgage, which is, after all, only another way of buying real estate.

Rent of land.—As regards rent the limits are naturally wide, and the price varies greatly. It will be seen from the taxation returns that the contribution to Government in the Canaries should amount to from 18% to 25% and in Madeira to from 9% to 10% of the yearly value.

It is a fair estimate to add to the amount of the taxes from $2\frac{1}{2}\%$ to 5% interest on the value of the farm. In the case of tomato land, however, position would be a paramount consideration.

Responsibility of landlord.—The custom in the Canaries regarding tenants is that the landlord shall be responsible for the exterior dilapidations of all buildings, for the repairs of all watercourses and walls and for the loss of buildings by fire.

The custom of working a farm on the part profit system will be found fully detailed under "methods of cultivation."

In Madeira the landlord is responsible in the case of villas but not in that of farms.

Waste land tax free.—In the Canaries absolutely waste land, brought under cultivation, may be registered as a "colonia agricola," and the farm and those resident upon it obtain the privilege of exemption from both territorial and municipal taxes during a period of about 20 years.

Before drawing any conclusion as to the relative value of land in the islands as compared to land elsewhere, or in one island as compared to another, it is proper that the following statement of facts and figures should be carefully studied.

Firstly, as regards the various plants which flourish in the various zones, where conditions as regards water and soil are favourable.

Climatic Zones (Canaries). Zone I. From the sea-level to about 500 ft. Bananas, pine-apples (indifferently), tobacco, and among fruit trees, date palms (in protected situations), and mangoes. Tomatoes as a winter crop. (*Limit of coffee in Madeira.*)

Zone II. From the sea-level to about 1,000 ft.—Sweet potatoes, gourds, arrowroot (little planted), cochineal, cactus, castor oil, sugar, bamboo, cape-gooseberry and among fruit trees, alligator pears and custard apples. Potatoes as a winter crop. (*Limit of figs in Madeira.*)

Zone III. From the sea-level to about 2,000 ft.—Tomatoes, potatoes, yams, onions, beans, lentils, peas, lucern, sweet

peppers, flax, garbanzos, lupine, tagasaste, and cereals, wheat, bearded wheat, barley, maize, rye, and oats (little planted). All vegetables grown in England, such as Jerusalem artichokes, parsley, lettuce, carrots, turnips, cabbages, cauliflowers, spinage, vegetable marrows, etc. Celery is not first rate, and asparagus is rather bitter. Among fruits, the vine, orange, lemon, citron, almond, olive, fig, prickly pear, mulberry, pomegranate, peach, apricot, custard apple, guava, coffee, Japanese loquat, melon, strawberry, granadilla. (Madeira much the same, except coffee and figs.)

Also the osier and the *arundo donax*, a cane largely used in making trellises and tying up tomatoes.

Zone IV. From 1,000 ft. to 4,000 ft.—The limit of cultivation very rarely exceeds 4,000 ft., and is generally reached at 3,500 ft. or thereabouts.

Many of the plants of Zone III. can be cultivated at the higher level, but the most general crop is cereals, followed by beans or lupine, the last of which is eaten down by the oxen for the sake of manure, as turnips are eaten in England, helping to prepare the land for the next year's harvest.

The chief crop at a great altitude is the Spanish chestnut, but many of the hardy fruit trees do very well, and there seems no reason why some of the large expanses of cinder and pulverised lava in the hills should not be planted with vines brought directly from Germany or other cold countries. The local vine is killed by the snow in the winter, and cannot be acclimatised.

Zone V. Forest Land.—In the *Canaries* heather, laurel, bracken and scrub sometimes commence as low down as 1,200 ft., but the usual commencement of what is known as the "Monte Verde," or green mountain side, is at 2,500 ft. to 3,200 ft.

The forest itself has been cut down so much that it is rare to find pine trees growing below 2,500 ft., and many of the pinares, or pine forests, only commence at about 4,000 ft.

The greatest height at which any shrub or tree is found is the Cañadas of Teneriffe, where the broom, known as the *retama*, grows from 5,600 ft. to nearly 11,000 ft. The *pinus Canariensis* (*téa*) lives at a height of nearly 8,000 ft., and the native cedar (*juniperus oxycedrus*), now nearly extinct, is found at about the same level.

The principal forest trees are the pines, of which the *pinus Canariensis* is peculiar to the islands, and a slow-growing but most valuable timber; the *viñatico* (*persea indica*) or native mahogany; the *palo blanco* (*piccoma excelsa*), a hard white wood; the *barbusano* (*phoebe barbusano*), a dark wood of great strength and endurance, used for making the beams of wine presses; the *til* (*oreodaphne foetens*), also a hard dark wood;

the *laurus Canariensis* and several species of heather, one of which grows upwards of 40 ft. high and measures sometimes over 5 ft. round the stem.

There are many more trees, and the cork, the elm, the oak, the eucalyptus, the plane, the beech, the cypress, the coral tree, the umbrella pine (*pinus pinea*), the camphor, india-rubber, wattle, pepper, acacia, araucaria, rose apple, etc., etc., are to be found. In fact it is evident that in a climate where the orange and the fir, the mango and the blackberry find a congenial home, it is difficult to name any tree which cannot be cultivated with more or less success.

Doubtless, under a farseeing Government, the islands might not only grow all the timber necessary for the repair of ships which call at their ports, but might even see the produce of their forests become a valuable export and a means of employing some of the vacant space in the colliers leaving for home, of which mention has already been made.

In *Madeira* the conditions are much the same, except that the mountain scrub commences as low as from 1,000 to 1,500 ft. and that the *Pinus Canariensis*, so widespread in the Canaries, is wanting. Owing to the discovery, however, that a pine forest pays better than bad wheat land, a great many hills are dark green which would otherwise be bare and brown.

The tree usually planted is the *pinus pinaster*. The method of planting adopted is for the owner of the land to allow some neighbouring peasant to sow the pines, together with a crop of barley, and to take the barley for his trouble. Where the land has been long under cultivation it is sometimes difficult to get the pines to start growing and 2 or 3 years may be wasted in this way, but when once started they continue to do well and renew themselves. In from 3 to 4 years the trees are large enough to make trellises for the vines; in 4 or 5 years they are large enough to make supports for the same and, in good positions, they can be chopped up for firewood in about 7 years, though sometimes they take from 10 to 12. To get a plank a foot wide the tree must remain over 20 years. It does not pay to let them go beyond the firewood stage and woods are then generally sold by auction. A sledge load of firewood is worth from 9 to 10 dollars.

Care of Forests.—Forest land may be here definitely disposed of by saying that at present its chief value is derived from the charcoal which is made from the heather and laurel and the sale of the cattle which find food within its limits. The Spanish government, however, has commenced to recognise the value of planting trees, and, if orders can be carried out, the goats kept away from young plantations and the peasants prevented from carrying away pine needles to make

manure, its importance as a means of irrigating the land can be gradually restored and the hills which are now too often bare be covered with a more wonderful and more varied verdure than was ever the case before.

The malignant neglect of centuries has been mercifully rendered almost harmless by the shortness of watercourses and the adamant nature of the rocky spurs, whose millions of pockets hold yet the earth which only requires a minimum of expenditure to become a source of revenue in more ways than one.

Pasture.—In certain parts of the islands extensive open pasture land is found, but most of the feeding ground is actually in or about the Monte Verde. The proportional value of pasture, as compared with arable land, appears from the taxation returns.

Probably the most economical method of fattening cattle for the ships or for export is by means of planting land with beans, lupine, etc., and allowing them to eat it off.

Those animals which are put out to graze are generally goats, although of course both sheep and oxen are seen feeding on the hills at times.

In Madeira the centre of the island is almost entirely surrounded by a stone wall, the pasture land inside belonging generally to the municipality in the same way as common land does in England.

Climate.—Some indications have now been given of the price of land and the crops to which it is adapted, and the next consideration is the climate. But little need be said about this in connection with agriculture, except that it is notably as perfect as can be found, and that on irrigated land, barring disease, one year's crop is as good as another.

This matter has been fully entered into in another part of this volume where figures of temperature, rainfall, etc., will be found.

The greater part of the rain falls, however, in the hills where the vapour carried from the sea by the trade wind is dissolved in the form of mist.

In the islands most distant from Africa, including Grand Canary, it may be said that droughts are unusual and never serious, but in the eastern islands, and especially in Fuerteventura, great distress is sometimes felt for want of rain, although in a wet year it is here and in Lanzarote that the greatest quantity of grain is produced.

The seasons are fairly well fixed, and rain may be expected to fall on the coast lands early in October, and to cease early in May.

Sir J. B. Lawes and Dr. Gilbert's observations show that wheat, oats or hay, in a climate like England, can mature into

average crops with an allowance of 700 tons of water per acre, if the moisture is distributed at the proper time. One inch of rain equals 100 tons per acre. In England there is an average of 25 inches and it has been shown in the meteorological statistics that, even on the sea shore at Grand Canary, where there is less rain than anywhere else, there is more than the seven inches absolutely necessary. Granted that, in a drier climate where the water must be run into the fields, double the quantity named is required, it is obvious that, except in Grand Canary and the S.E. side of Teneriffe, the requisite amount falls.

But water is best stored in the hills and the quantity of rain falling there is much greater than on the coast. To this rain must be added the moisture which fringes of trees, judiciously planted, would extract from the mountain mists, more common be it remembered in the summer, when a renewal of the supply is most wanted, than in the winter. So copious is the quantity sometimes extracted by trees that anyone standing to the leeward of a small pine, whilst the warm mid-day mist is passing, would be wet through in five minutes.

The water is there and can of course be stored if the works could be made to pay. Presuming this to be the case, the cultivable land in the Canaries could be so greatly increased that the islands, crowded as they are, could support a very much larger number than they do at present, whilst even in Madeira there would be a material gain.

Seasons and Harvests.—The gathering of vegetables or the harvest of cereals depends, to some extent, on the zone in which they are grown and the time of planting. On irrigable lands a wide latitude is enjoyed as regards nearly everything. On land which is watered by the rain the winter is of course the season of growth and the summer of rest.

The approximate seasons and a few particulars of those crops which are grown for export :—

TOMATOES are considered one of the most profitable crops, but are looked upon as possibly temporary, and are of course more subject to disease than cereals.

Seeds imported from England are planted in August and September, and the plant pricked out on irrigable land when from 6 in. to 8 in. high. Calculations differ very much, but a crop of 10,000 lbs. of selected fruit per fanegada may be looked upon as a good average result, though it may produce as much as 20,000 lbs. One estimate is that, by pricking the plants out 2 ft. apart and in rows 3 ft. from one another, about 9,300 plants go into a fanegada (79 yards each way) and each plant yields from 1 lb to $1\frac{1}{4}$ lb. of selected fruit, that is to say 9,300 lbs. to 11,627 lbs. as an average crop. Other growers reckon 10 to 15 lbs. of fruit gross on each plant and 5 to 6 lbs. of selected.

The fruit is large and of splendid flavor and the earliest ripens by about October.

Taking 10,000 lbs. (100 quintales) as a standard yield, selling at from 2\$ to 3\$ a quintal, the return would be from 200\$ to 300 \$ a fanegada. Such a price would be on contract but growers preferring to take the risk of the market might get any price from half-a-dollar to six dollars. Large allowances must be made for disease when no fruit at all is sold.

This disease is probably greatly owing to the ignorance in the islands on the subject of the rotation of crops. Tomatoes are planted year after year on the same land and are followed by potatoes until at last the soil is so impoverished and the plants so weakened, that they become quite incapable of resisting disease. Manuring is not always successful and often produces too rapid a growth of wood, the best results being sometimes obtained without manure, in which case the crop must not be repeated next year. It is found that land on the south side of the island, where water can be procured, not only gives better crops, but is less affected by disease.

From the returns given above must be deducted the cost of labour and any manure that is used. Labour, if the fruit is properly lifted, may be calculated at an average of three women and half as many men per fanegada constantly from start to finish. If water has to be purchased it is of course in this as in other cases a further more or less onerous outlay. Note will be taken of the fact that the fanegada is reckoned as all land and no allowance is made for walls. (For labourers' wages see elsewhere.)

Potatoes.—On low lying lands potatoes must be planted on irrigable soil even in the winter. Ground, however, at a slight elevation, if it is largely mixed with tufa or rotten pumice-stone, can do without watering. The earliest shipments commence about the end of January and the magnum bonum is the favourite. Seed potatoes are shipped from England as soon as they can be procured in September or October, and should be planted whole at a good depth.

Stable and chemical manure are generally used, but, if the castor oil plant were planted, as it should be, and the berries crushed in the island, the cake or refuse would prove of great service if used in proper proportions.

The English potato produces from 3 to 5 fold and, exceptionally, up to 8 fold. A fair contract selling price is 1¼\$ per quintal for shipment. It has been found that if the same potato is replanted for several years it degenerates in quality but becomes more robust and yields from 7 to 15 fold. It has almost replaced the potatoes formerly planted in Teneriffe, but on the South of Grand Canary the Palmera is still the

favourite and yields from 14 to 30 fold, selling at from 2\$ to 3½\$ the fanega of 300 lbs.

The potato disease appeared in October, 1843, near Laguna, and by 1845 had spread to all the islands. At the time it committed great ravages, and unfortunately again shows a tendency to become malignant. This is very likely because tomatoes and potatoes are planted in succession, or even at one and the same time. The Palmera plant is rarely attacked. It has been found that a breezy situation is most favourable, though planting in exposed positions lead to great loss in case of storms.

Neither tomatoes nor potatoes are shipped very largely from Madeira, but the peasants at a certain level obtain three crops of potatoes off the same land every year.

Bananas.—Bananas only grow on irrigable land near the coast, and are shipped more especially from Canary. Land planted with bananas takes about eighteen months to come into bearing; but potatoes, etc., may be planted between the rows while they are maturing. The roots are planted at about 2 metres distance, or say about 960 plants to the acre. Some growers give more space, but it is questionable whether any advantage is gained, as the roots of the banana do not travel far from the bulb, and there seems to be no reason why judicious manuring should not produce an 8 hand bunch on the one just as well as on the other.

The first harvest consists of one bunch to the plant, after which two, three, or even four trees spring from the same root and two or even three bunches may be gathered annually. After once fruiting each tree is cut down, and the ground must be replanted from time to time. Rotation would undoubtedly be of advantage, as it takes two or three years to kill the old bulbs.

When growing they are of little trouble or expense, and a bunch or "racimo" of fruit of 180 fingers or over is worth from 2 pesetas to 3 pesetas for shipping. The manure used is generally chemical. The leaves used as litter rot slowly but form a good manure, or they are used for packing. The stems serve as fodder for cows.

In Madeira bananas grow very well and shippers will cut them off the trees and buy them at from 3/- to 4/- a bunch.

The cultivation of the banana (*musa paradisiaca*) has not been very deeply studied and is conducted in a somewhat haphazard manner. Probably much remains to be learnt, and reference to the drawings on some of the ruined temples in Yucatan (Central America), would, as the writer has been informed, help to throw some light on the gradual improvement during pre-historical times both of the banana and of the

maize. The botanists of ancient Greece who accompanied Alexander the Great into the Punjaub, classified the banana as a cross between the maize and the sugar-cane.

Oranges.—As a rule oranges grow best on the south side of the islands. The finest are to be found at Telde in Grand Canary and Granadilla in Teneriffe. Those in Canary weigh sometimes as much as 10 ounces and are very thin skinned. The largest are rather dear, costing as much as $\frac{1}{2}$ d. each, and the smaller ones, fit for shipment, rarely under four a penny.

Oranges first ripen in November, and could be shipped in some quantity were they carefully picked and packed without bruising. Any great extension of the trade is hindered by the well-known habit of the citrus family to change its form, size, and taste under varying conditions, sufficient variation being frequently found in the soil and aspect of sites in neighbouring ravines to convert a luscious into a comparatively worthless fruit. There is no doubt, however, that, could the residents be induced to plant more freely, many sites could be found which would allow of their growing satisfactorily where they are now absent.

The trees of all the islands have been attacked by a slow consumptive disease believed to have been hatched in America and due to an insect which attacks the root. It may be mentioned that there are strong reasons to suppose that the Canaries are the original home of the sweet orange.

Experimental remittances.—Beyond the above four fruits, practically none are as yet shipped to England unless in very small quantities or by way of an experiment. *Peas* and *French beans* have, however, been sent from Madeira during the last two or three years, and what may be done if ships are ever properly equipped or built for the trade it is difficult to say. In the meantime there is no doubt that *cauliflowers* are infinitely superior to those grown in England; that *peas* can be grown quite as well; that *onions* are mild and of good flavour, and *French beans* are excellent. All these vegetables and half-a-hundred more can be obtained in relays all through the winter.

Unfortunately the peas and beans sent from Madeira led to such competition amongst the shippers that the business did not pay and received a check which it will take some years to recover. *Citrons* could be shipped in moderate quantities but the packing costs about £2 a pipe and the freight £1, the selling price in London varying between £2 and £7 so that there is practically no profit.

Method of shipping.—Tomatoes, potatoes, and oranges are shipped in substantial boxes for which the wood is imported ready sawn by way of London. Bananas are packed in wooden crates or locally made baskets.

Freight.—The cost of freight to London or Liverpool, is 15s., plus 10 per cent. primage per ton measurement and in the case of bananas 1s. 6d. to 2s. a bunch to London, and 1s. a bunch to Liverpool. In the latter case if the basket measures over 6 cubic ft. it comes under the 15s. a ton category.

Figs, grapes, etc.—Among the more delicate fruits, such as the grape, mango, custard apple, apricot, etc., is the fig which grows in great variety, and is especially good in the Island of Hierro. During the season they are extremely cheap, and there is no reason why they should not compete with the Greek fig if properly dried and packed, although they are never likely to be shipped fresh.

The *Walnut* is kiln dried and sent away to a small extent. The tree grows well in suitable situations in all the islands and the absence of all risk to the shipper should lead to a more extensive development of the industry.

The *Osier* will grow well wherever it can be planted on the bank of a stream or a tank. Stripped osiers from Madeira are said to fetch the highest price in the London market, namely, from £10 to £15 a ton. No use has so far been made of the bark. The plant is believed to be indigenous, is easy to propagate and grows freely.

The *Black Wattle* grows luxuriantly and might be used to replace mountain scrub or even be planted on land now devoted to lupine. It has not been planted commercially so far and a few figures may be of use.

The seed which must be of the *acacia pycnantha mollissima*, is either baked or thrown into boiling water. It is then planted on furrowed land but along the top of the mound. When once fairly started the plantation is thinned out by pulling up the young shoots, after which the trees are kept straight by lopping. At 5 to 7 years they are cut down and the bark, which should contain from 35% to 40% of tannin stripped off. The result should be at least 5 and possibly 20 tons to the acre. Taking 5 as an ordinary result and presuming it to be properly stripped and dried, it is torn into small shreds by machinery, packed in bags and sent to London, where it fetches at the present moment about £11 a ton or £55 to the acre gross. It can be shipped whole and in bales and in any case costs little for working expenses. Avenues of oaks should be planted between the wattles in case of fire. The timber makes good firewood or can be turned into pick handles, etc.

The *Silver Wattle*, which does not contain more than 12% of tannin or thereabouts, fetches a lower price, but grows best on sandy flats, and could therefore be employed beneficially near Las Palmas.

It might be used for reclaiming sandy wastes both here and

in the Eastern Islands or, where it would not thrive, marram grass might serve the same purpose and at the same time afford a grazing ground for cattle.

Marram Grass has been used with great benefit in the colony of Victoria (Australia). It grows well in shifting sand. Plants are raised from the seed and pricked out in holes from 9 to 15 in. deep, according to the stability of the sand. The holes are made 2 ft. apart and in rows 6 ft. wide, *i.e.*, 3,630 plants to the acre. Plants are sold in Australia at about 25/- a ton (2,800 to the ton). Cattle must not be allowed to graze until the grass is well established, but they are then beneficial, as they prevent it from becoming rank. It will grow to a height of 4 ft. and is much relished by oxen, etc.

Castor Oil.—Beyond the value of the bean of the castor oil plant as an oil producer, it has already been stated that the refuse after pressing is itself of great value to a country where such plants as the potato and the tomato are cultivated to any extent. The plant grows wild in the most arid situations and could no doubt be made to fill up a great part of the waste unirrigated lands on the South side. An additional profit might be drawn by the cultivation of the silk worm known as the *Bombyx Atlas*, which feeds on the castor oil plant and produces one of the largest cocoons known.

The silk is of the "*Tusseh*" or unreelable varieties and is of considerable commercial value. This value would increase enormously if the parechyma or glutinous matter, binding the thread together, could be dissolved, not an unlikely discovery to be made in these days of chemical progress.

The Aloe.—Like the castor oil and the prickly pear this will thrive almost anywhere and seems to require no moisture. That in the islands has not hitherto been cultivated commercially, although samples of sisal hemp made from it have proved to be of the very finest quality. It is probable that the variety grown in the Bahamas, the *Agave Sisilana* of Perrine or *Bahama Pita*, might be introduced with advantage.

This is propagated from small plants taken from the pole when in flower or from suckers, matures in the Bahamas in 4 years and yields leaves as much as 5 ft. long, which have no teeth. It thrives in the driest situations and, if planted 12 ft. by 6 ft. or 605 to the acre, should yield about $\frac{1}{2}$ ton of fibre annually to the acre. The leaves are cut monthly as they arrive at maturity and, with wages at from 50% to 120% higher than in Madeira, etc.; a plantation is estimated to yield an annual profit of between £5 and £6 an acre in the Bahamas.

Undeveloped Industries.—A number of plants, such as esparto grass, camphor, etc., would ultimately give profits if suitable situations could be obtained at reasonable prices.

Pickles or perfumes might be made, or fruits dried, if the natives would encourage the introduction of foreign capital and benefit themselves, by leaving new enterprises alone for a time and by allowing others to make a living ; or if the governments would cease to impose ridiculous duties on such articles as tallow and spirits, both absolutely necessary for the manufacture of scents.

The finest discovery of all, however, would be that of some mineral ore, giving freight to colliers going home, or failing that it is not impossible that some volcanic deposit might be discovered, sufficiently rich in nitrates or phosphates to pay for its own carriage. Experience shows that building stone, good as it is and cheap as the local labour is, can find no outlet under present circumstances in Europe, although nominally very large profits can be shown.

Other special products bearing materially upon the value of land and labour are the vine, sugar-cane, tobacco, cochineal, silk etc., with their attendant industries such as the manufacture of wine and brandy, sugar, rum, cigars, etc.

The Vine.—In the Canaries vines are planted on unirrigated slopes, and find a congenial home amongst volcanic cinders or slag. They have been and will probably again become the most important of all products of the country.

The grapes grown are the *tentillo* and the *negra molle*, both black ; the *moscatel*, black and white, and the *verdelho*, *Pedro Jimenez*, *forastero* and *vija-riega*, all white.

A fanegada of vines produces more or less according to the situation. For instance below Matanza in Teneriffe the yield is said to be from 3 to 6 pipes of must and above from 2 to 4 pipes. In the Monte (Grand Canary) it is estimated at from $1\frac{1}{2}$ to 3 pipes, though, exceptionally, it may be much greater. The must produced in the lower and consequently warmer vineyards is more valuable and may fetch as much as £5 10s. a pipe in a good season. Higher up it might not fetch more than half as much, and in the Monte (Canary) is worth from £3 15s. to £5 10s. a pipe.

A country pipe (480 litres : 106½ gallons) of common new wine sells at from 150 to 175 pesetas and an average price would be about 250 pesetas. A matured pipe for export (450 litres : 100 gallons) is worth much more.

The expenses in all cases may be reckoned at about 33% and consist of pruning, hoeing, sulphuring, lifting the bunches on to small stakes, pressing, fermenting etc. More sulphur is required in vineyards higher up than in those lower down. It must always be used when the grapes appear but need not necessarily be repeated in favourable positions, though in unfavourable it may have to be dusted on as many as three or even four times.

Besides the *oidium tuckeri* there is a parasitic disease in the Canaries known as *Midlen* which appeared about 1878 and is treated by an application of quick-lime and sulphate of copper. It principally attacks and dries up the leaves and prevents the proper ripening of the fruit. Vineyards in the hills suffer more from both of these diseases than those lower down, so that the expenses for labour with an inferior vineyard are often actually greater than is the case with superior land. In all cases, however, the above diseases can be successfully treated, and the produce of the vines is now as good and as abundant as ever it was, whilst a bad vintage in the best vineyards is very rare. The ordinary method of manuring is to plant lupine between the vines in the winter and dig it in in the spring. The leaf falls in the commencement of January and pushes again in the latter half of March. The phylloxera never reached the Canaries.

The vine is planted by taking a cutting some 3 feet in length, tying it into a knot and placing it rather deeply into the earth. Little can be gathered before the third year but a tenant, planting vines, cannot be ejected unless compensation is made.

It will be seen from the above remarks that the value of vineyards must differ enormously, besides which the loss by the presence of walls must be taken into account. Near Orotava vineyards are said to be worth—1st class, from £140 to £180 a fanegada; 2nd class, from £100 to £130; 3rd class, £70 to £100 and for inferior sites very much less.

The wine contains from 16 to 21 % of alcohol (Salleron) and about 8 % of spirits is added after fermentation, or, in the case of superior qualities, a small quantity of sweet wine known as *gloria*. Red Canary, in order to enter England under the 1s. duty, cannot be fortified with more than 5 % of spirits.

Wine matures in the wood in about 8 years but improves up to 25. By placing the vine under glass roofs in the sun it matures more quickly, but heated *estufas* are not used as they are in Madeira.

Pipes, which are made in the islands, cost about £2 each. The chief consumers are France and Germany but the Canary wine trade has suffered severely by the recent rise in the duties on spirits and because of the refusal of the Spanish Government to allow merchants to prepare it for export by means of bonded spirits.

The vine in Madeira.—The most approved manner of growing the vine in Madeira at present is by planting cuttings from American stock some four feet deep, the soil having previously been turned over to the same depth. Fruit may be expected on the third year, but is delayed one year by grafting. Some of the poorer peasantry, unable to wait another year, do

not graft, a little fact which bears more or less upon the question of small holdings.

The vines used for grafting are Verdelho, Tinta, Bual, Sercial, Malvazia Candida, Moscatel and Bastardo, which are named in the order of their importance.

The vines are trained on trellises on the south, or allowed to straggle on the ground on the north of the island. In the latter case the fruit is lifted by means of small stakes, and in the former vegetables, pumpkins, etc. are planted in between the vines. Pruning takes place just before the swelling of the bud and is generally slight, probably two slight. Flowers appear in April and May and the grapes are gathered from the end of August up till October according to the zone.

The average produce of a vineyard is from 3—4 pipes of *must* per acre (a pipe of *must* equals 528 litres and is supposed, after making all allowances for after treatment, to give a pipe of wine of 92 Imperial gallons). In cases however, of high and scientific cultivation, as in Messrs. Leacock and Co's vineyard at São João, it sometimes reaches 7 pipes. Vineyards are said to require replanting every 20 years but if well treated may last up to 50.

A hundredweight of grapes should produce about a *barril* (44 litres) of *must* which can be sold to the wine merchants at from 8s. to 14s. per *barril*.

When thought desirable fermentation is checked by the addition of from 5 % to 10 % of spirit, and the wine is matured by submitting it to a temperature of from 90°—140° Fahr. for from 3—6 months, a process which reduces it by from 5 % to 15 %. The finer the wine the lesser the heat to which it is exposed and the longer the time. The buildings used for this purpose are called “Estufas” and are sometimes of very great size, necessitating the employment of a large amount of capital. They are supposed to take the place of the hold of the ship, where the heat and the constant movement used to give the value to a wine best expressed perhaps by quoting such initials as “V. O. W. I.” Sherry, meaning Very Old West India Sherry, or wine which had taken a voyage for the benefit of its health. Where the merchant does not use the “Estufa” the wine is often exposed under a glass roof to the heat of the sun, the change in temperature between day and night being supposed to add to the aroma.

The cost of a wooden cask is some £2, and this, together with the export duty (50 reis per decalitre) and the labour involved in shipment, causes an expenditure of about £5 a pipe, free on board. The evaporation in the cask represents some 5 % per annum.

Madeira is shipped at an average strength of 32° Sykes of

proof spirit, and the fact that the shilling duty limit is fixed at 30° seems a great injustice to the island, where by far the largest amount of business is in the hands of our own countrymen, a fact which is not so much the case on the continent.

The chief consumers are the French, Germans and Russians. Thus though in 1892, 1,991 pipes were sent to England, 388 only remained in the country.

Sugar.—Sugar-making has lately become the most important industry in *Grand Canary*. Several steam factories have been built there and one in *Teneriffe*. Small factories pay a duty of 20 pesetas for each 100 kilos. they produce. Factories producing a very large quantity are allowed to compound for this tax by paying a round sum annually, which may amount roughly to from 5 pesetas to 6 pesetas per 100 kilos. Such a factory is “concertado,” and has the additional privilege of importing the sugar into Spain duty free. Over and above the tax of production all factories must pay the duty on machinery, which varies in proportion to the population of the district.

These fiscal rights have been confirmed by Act of Parliament, and, as sugar-cane taken from here has successfully replaced the diseased sugar-cane in Madeira, there is every reason to hope that it may remain healthy and that the large amount of capital laid out in plant of late years, much of which is English, may secure the remuneration it deserves. There seems to be an opening for a large sugar mill or two in the island of Palma where at present none exists. Palma was formerly the island where most sugar was produced.

The yield of cane is estimated to be from 800—1,200 quintales per fanegada, sold under contract to the mills at about 1½ pesetas (about 1s. 3d.) the quintal, a price at which it can scarcely remain, as the same amount would fetch 593 reis (about 2s. 2½d.) in Madeira, where the advantages of the sugar crushers seem no greater. Cane is supposed to produce from 5% to 7% of sugar, but the figures given for Madeira apply almost equally well to the Canaries. A quintal of first-class sugar fetches about 9 dollars, partly owing to the heavy duty imposed by the Government, in order to prevent the islands from smuggling sugar in and re-exporting it to Spain as home produce. This law so far has injured everybody with the exception of half-a-dozen owners of mills.

Sugar is generally planted in March and cutting commences in the following March. Labour costs little and the manure wanted is 20 cwt. per fanegada, *i.e.*, twelve sacks costing about £1 a sack.

Madeira.—The industrial tax on sugar factories was estimated at 126 dollars per annum in 1893, which practically covers everything. This 126 dollars being multiplied by the number

of factories, the owners meet and divide it equitably amongst them according to the importance of the factory. For instance the mill owned by Messrs. W. Hinton and Sons in Funchal paid some $\frac{9}{10}$ of the whole of the amount demanded by the Government from the entire island. As in the case of sugar factories so the industrial taxes are distributed on all trades.

The replanting of sugar which commenced after the vine disease of 1852, is encouraged by the fact that the produce is admitted into Portugal duty free. At present there are four steam mills at work. The best figures obtainable show that during the eleven years from 1875—1885 inclusive, there was a total production of cane of 212,727 tons, of which 116,247 tons were made into sugar molasses and rectified spirit and 96,480 tons into brut spirit.

The averages were (per annum) 19,339 tons of cane, producing 939 tons of white and brown sugar and 364 tons of molasses, which last was distilled into 130,964 litres of rectified spirit, and in addition 844,273 litres of brut spirit made from the cane direct. The annual value of the above is stated to be :—Sugar, 186,654\$ (at 4,500 reis to £1 = £41,478) Rectified Spirit, used in the manufacture of wine, 30,909\$ (£6,868); and rough or brut spirit, consumed by the peasantry, 161,455\$ (£35,879) or a total per annum of 379,018\$ (£84,225) or 12s. 11d. per head of the population.

The greatest production was 27,800 tons in 1878 with a total value of 550,400\$ (£122,311).

An average taken over the whole period shows that 100 kilos of cane manufactured into sugar etc., produced 2,058 reis and that the same amount distilled into brut spirit produced 1,840 reis.

The cultivating of the sugar cane shows a tendency to increase and is stated to give even a better return than the vine, to which it is stated to form a capital alternative when the ground requires replanting. The disease which practically annihilated the cane between 1885 and 1890, does not attack the Canary and Mauritius stock, which were strong and healthy in 1893. The new canes only show a density of 8° to 9° Beauné as against 11° to 13° in the old Bourbon plant. It is thought however that they are gradually improving. The yield of the cane in Madeira is about 7% as against 6½% in the West Indies, but the process of extraction is much more thorough.

The cutting of the cane lasts from March till May and two arrobas (64 lbs.), of cane, of which the market price in 1892 was 380 reis, are supposed to produce 17 litres of juice (*garapa*) equalling approximately 1¼ kilos of white sugar (not loaf), ½ kilo of 2nd or 3rd quality sugar and ½ kilo of molasses, from which .179 of a litre of rectified spirit is distilled. Four gallons

(18 litres) of cane juice which is entirely distilled should produce $2\frac{1}{2}$ litres of Spirit 26° Cartier.

The cane is planted by putting one or two joints of the top of the stem into the ground and watering it. It is ready for cutting in two years and will last some seven years before being replaced. The leaves are given to the cattle.

In 1891-92 the growers of cane induced the government to raise the import duty on foreign molasses from 23 to 60 reis per kilo with the object of retailing their cane at a higher price. The owners of mills however, who had formerly kept themselves employed by distilling imported molasses throughout the year, finding their work stopped for some eight or ten months at a stretch and the ground cut from under their feet by spirit from the Azores, were obliged, in order to make a living, to combine to give only a certain price for cane. This price, being much lower than before, there is every probability of the import duty on molasses being altered again. Protective policy was not successful in this case.

Spirits.—In order to allow the large stocks of wine in Spain to be made into spirit and thus to be profitably disposed of, the taxation on industrial spirit, *i.e.*, spirit made from anything else but the grape, whether of home manufacture or imported, was greatly increased in July, 1892. In return for this concession a tax was also placed on the making of spirit from the grape, which was formerly free. The result has been the sudden transformation of a quantity of unsaleable wine into unsaleable spirit and the crippling of the wine trade, as exporters of cheap popular wines who are obliged to fortify their commodities, are greatly hampered by the rise in the price of spirits. Spirit factories also have to pay duty on machinery.

In Madeira spirits made from grapes or sugar are free but all other spirits are taxed.

Tobacco.—Tobacco is little planted. Some years ago the Madrid Government agreed to take large quantities at a fixed price, but having sold the monopoly to a company, the latter refused to take the tobacco sent in as not being up to sample, a great many farmers and buyers being ruined in consequence.

The catastrophe was fortunate for the islands as it gave rise to a new industry, namely the making of cigars, which has been touched on elsewhere and which should prove of permanent benefit. Tobacco is not grown in Madeira or the Canaries now.

Cochineal.—It is useless to give a very extended series of facts and figures regarding the best method of cultivating cochineal, as it is nearly impossible to make any profit by it in the Canaries where it is best grown, and no one is likely to

try it anywhere else. In case, however, that the experiment should be made, the leaves, from which the plants are grown, should be planted a yard apart, in alleys 2 yards wide and in earth from 2 ft. to 3 ft. in depth. At the end of 18 months or 2 years they are ready to receive the insect, which is either dusted on to the leaf in the embryo state during the rainless season, or allowed to attach itself to a piece of muslin in the spring, the muslin being laid for a few minutes on to a box full of "madres" (mothers) in a room which is kept at a temperature of 85°, and then fastened on to the leaf by means of the thorns with which the latter is provided.

The female is wingless and is characterised by the tarsus, which is terminated by a peculiar hook. The body is round and fat like a currant, and terminates in two small hooks. When once attached to the leaf she cannot move any more.

The ordinary expenses are stated to be about £30 an acre per annum, and the yield from 8,000 lbs. to 10,000 lbs. of fresh, or 2,000 lbs. to 2,500 lbs. of dry cochineal per acre in the summer, although it is said that certain very good land has produced as much as 6,000 lbs. in the summer crop.

Guano is the best manure, as it makes the skin of the cactus tender. The allowance is about 1,000 lbs. to the acre of ordinary cochineal bug, or 2,000 lbs. an acre for "madres."

White cochineal is killed by being smoked with sulphur, and black by being shaken in sacks.

Silk and Tinned Fruit.—Silk was once a considerable export, and continues to be grown and woven on a small scale in La Palma. There is a small manufactory of tinned fruits in the same island.

Tagasaste ("Cytisus Proliferus Varietas"), a plant, indigenous to La Palma and but little known out of the islands, deserves mention from the importance it may ultimately acquire in countries where the pasturage is liable to suffer from long droughts.

It may be planted on mountain sides inaccessible to the plough, gives a great number of tender young branches, may be cut 3 or 4 times in the year and sprouts again very rapidly. It has very long roots, which allow it to grow during rainless seasons when other plants would die. By cutting it early it is prevented from becoming too fibrous.

The leaves are trifoliate and the seed pod much resembles that of the vetch. It is sown from the seed and should be pricked out early. It is much relished by the animals, may be dried in the same way as hay in Europe, and has the additional advantage of forming a complete food, or at least does so in hot climates.

Attention was first called to it by the late Dr. Victor

Perez of Orotava, who experimented on it for years and the result of whose labours may be obtained in pamphlet form. (*Le Tagasaste, etc.*, Kirkland Cope & Co., London).

The Sweet Potato (batata edulis), of which the Demerara variety is chiefly cultivated, is a tuber of the convolvulus family and grows freely at most altitudes, giving up to 3 crops a year. The leaves are given to the cattle. Large quantities of spirits are extracted from it in the Azores.

Live Stock.—A certain amount of cattle is bred for the use of ships and for export. Sheep are worth little and are small. Goats are of a good breed for milk, but the flesh is not much relished. Fowls, etc., do well but fatten badly.

In the Canaries horses are bred small but wiry and are willing workers, but mules are more usually employed for heavy work. The oxen, which do all the work in Madeira, are handsome animals and sometimes of enormous size, but the bone is very large in proportion to the meat, and they rarely cut up well. Jersey cattle have been imported and seem to do well. Camels and donkeys are chiefly bred in Fuerteventura and Lanzarote, and are of a good strain.

Maize.—It has been said that maize, which is always grown on irrigable soil, forms the securest method of valuation. The following statement is given for the Canaries.

On first class land two crops of maize would be planted, the first in March (gathered in July), the second in August (gathered in November) and these should give on an average 50 fanegas and 33 fanegas respectively. In amongst the maize black beans (*Judías*) would be planted and, when gathering these from the second crop about the end of October, they would be replaced by broad beans. The two crops of *Judías* should give 9 fanegas to the fanegada and the broad beans would be eaten down by the cattle. A fanegada of land could fatten about $1\frac{1}{2}$ head of cattle if one fanegada to every six fanegadas were planted with lucern in order to help out the *pasto* (maize straw) given to the beasts. A few pumpkins might be cultivated and the weeds and refuse maize would fatten a pig. Taking the price of maize at 10s. a fanega (3 pesos and 1 toston) delivered, and the *Judías* at 18s. (6 pesos) and the exchange at 25 pesetas to £1 the result would be as follows.

1st class land. Sale of 83 fanegas of maize, £42 10s. Sale of 9 fanegas of *Judías*, £8 2s. Fattening $1\frac{1}{2}$ beasts twice a year at a profit of £3 each beast, £9. Sale of pumpkins and corn cobs for fuel, say £1. Profit on one pig, say £2 5s. Total £61 17s.

2nd class land. Sale of 67 fanegas (40 + 27) of maize and 7 fanegas of *Judías*, otherwise the same. Total £52 1s.

Expenses in either case. Share of the land planted with lucern say at a rent of £15 per fanegada, £2 10s.; insurance of beasts costing say £4 10s. and selling at say £7 10s., say 10s.; extra stable manure required, say 200 *serons* or mule loads at 3d. a seron, £2; fetching the manure and putting it on the land from say $1\frac{1}{2}$ miles (2 men and 2 mules and 10 journeys a day) £2; 6 sacks of chemical manure, £6; opening up soil, watering same, planting and making furrows (*surcos*); irrigating 12 times a year; putting on guano and hoeing; collecting and carrying crops; separating, winnowing and storing all crops; cost of selling and cartage; attendance on $1\frac{1}{2}$ cattle and carrying of stable manure; wear and tear of implements, rope for oxen etc. total £23 10s.

The above calculations have been made from a practical farmer's notes and on the basis of a man's wage being 1s. a day, a woman 6d. and a man and 2 mules, 3s. If the wages are heavier or if water has to be purchased an allowance must be made. If there is no water as much as £20 may have to be paid in some parts for sufficient water per fanegada per annum.

In the case of 1st class land, without allowing for rent, there appears to be a margin of £38 7s. and on 2nd class land of £28 11s. The latter however might not be able to support as much as $1\frac{1}{2}$ head of cattle.

In some places £25 and even £30 per fanegada is paid by the natives, but they generally have some other work to do, they manure insufficiently, they provide all the labour themselves, live on *gofio* and get up at three every morning, and, lastly, they never keep books and really don't know whether they are making a profit or not.

PART IV.—*Results and reasons of the Influx of Invalids and Casual Visitors, with Hints Regarding the Building of Villas, etc.*

In a country where industrial occupations, with the exception of the manufacture of sugar and the building of a few coal lighters and schooners, are confined to the making of a little linen and woollen cloth for household use, of a few casks for the vine growers, of the plaiting of straw, rolling of cigars and baking of a certain quantity of tiles and unglazed jars, a new and lucrative source of employment has been created by the wants of an army of foreigners which invades the islands regularly every winter, and has increased in number from some hundreds in 1885 to several thousands in 1891-92.

That most of these are English might be expected, and by them the chain is completed which makes of the Islands a port

where English ships are coaled, a garden where vegetables are grown for English tables and a recreation ground or sanatorium built up and maintained by English people.

The change in the last few years is marvellous. At Las Palmas beautiful hotels with extensive lawns and flower gardens have sprung up from what was a sandy desert, and a Protestant church has been built; in Orotava an inaccessible and useless lava stream is crowned by a spacious and handsome building in whose gaily planted grounds are an English church and parsonage with stained glass windows and the last thing in encaustic tiles; many of the largest and best houses in the towns have been metamorphosed into hotels, whilst the village must indeed be small which does not boast its inn or fonda, all bent on turning a certain quota of the golden shower in their own direction.

In the livery stables there are ten carriages where there used to be one, and most useful this growth must have been to those English merchants whose duty it is to gain a livelihood by exporting worn-out cabs or landaus.

Does a horse trot along the road there is an Englishman on its back and, by one of this same energetic race, who curiously enough were the first to ascend the Peak in historic times, a stone hut has actually been built for the accommodation of all comers at a height of 10,700 ft. above the sea.

All this is the outcome of telegraphic and steam facilities, and in a short time there may even be sign-posts at all the corners, and seats placed at regular intervals along the mountain paths.

The above remarks apply less to Madeira, because it preceded the Canaries by several years and the change has not been so rapid. Even here, however, fresh hotels have lately been built or older ones enlarged to meet the constantly growing demand.

What amount of money is actually left by these visitors is open to argument, but it is probably not less than £100,000 per annum. A part of this is expended on articles brought from England, such as bacon, butter, cheese, etc., but up till now far more English capital has been sunk in new enterprises than has been taken out.

Many of the wealthier residents hold shares in the hotel companies, but it is doubtful whether their class has profited by the movement, as the price of meat, eggs, fowls, vegetables, etc., has naturally risen. The working classes, however, have been directly benefited by the same cause.

The Canary islander is slow to receive an impression and still slower to risk any money by acting on an idea, but, of course, measures are being taken to meet this new demand and, doubtless, all classes will be gainers by it sooner or later.

Besides the profit derived from what is consumed, many of the visitors come to stay, invest money in land or in building houses and take part in trade, or, by spreading a knowledge of the islands and their products, are an important help in the extension of markets.

Good shops and stores have been started to meet the new demand while merchants generally have increased their stocks. Establishments have also sprung up to supply the wants of visitors and ships in ice and soda water, beer, dairy produce, etc., but the bulk of the supplies of all kinds are derived from a native source. There is no doubt that in time well bred fowls or ducks, fancy bread, properly grown vegetables, and scientifically fattened cattle will have to be provided by some one.

As regards food for invalids much can be done. Game is far from plentiful, fowls are thin and dry, and the excellent frozen mutton, etc., which passes through the harbours is unobtainable. Cellars or cool chambers where these can be stored are required and would pay as an enterprise if properly worked in agreement with the hotels, which would probably be glad to offer some sort of a guarantee. Such an establishment would be materially aided in the Canaries could a refrigerator be placed on the interinsular steamer running to the western islands, which would permit partridges to be brought from Gomera, etc., and allow all the hotels to be supplied from one centre.

Though many things may be wanting as regards feeding there is also much to be thankful for. Fruit and vegetables are always plentiful, and a good native cook will make delicate dishes out of more unpromising materials than those found in English markets. Fish is also in some instances delicious and the climate is a very good sauce which compensates for every shortcoming.

The information which the writer has supplied elsewhere makes it unnecessary to give any full details on points of climate and accommodation. All that need be said is that the extreme annual variation on the sea-coast during ordinary weather is from about 45° Fahr. on the north to 86° Fahr. on the south; that English hotels cost from 6s. a day to 15s. a day, and native from 3s. a day to 6s. a day. The single fare by steamer from England first class, varies from £10 to £14, and the double ticket from £15 to £25 10s.

Villas.—Villas are plentiful in Madeira but a good deal wanted in the Canaries. Houses in Madeira are generally very well furnished and let at from £40 to £300 for the season or the year. For houses in the Canaries from £4 to £12 per month is asked.

The tenant may leave in the latter place without giving notice and can only be forced to pay up to the day of leaving. The landlord can turn a tenant out at the end of the month by giving 13 days' notice.

In case visitors should determine to build or that speculators should feel inclined to erect villas in the Canaries the following data may be of service in calculating the cost.

Lime is brought from Fuerteventura, and when burnt and sifted sells in the ports at from 1.25 pesetas to 1.40 pesetas per fanega of 80 lbs. The quality is very good. Unburnt limestone costs from 0.30 pesetas to 0.50 pesetas per quintal.

Local *architects* should not be applied to when a house is being built for the accommodation of Englishmen, as they know nothing about drainage or ventilation, and are so accustomed to the expensive method of enclosing a "patio," or yard, that they seem to find it impossible to dispose of a staircase inside the building.

The local *carpenters* are very good, but have never been required to make windows or doors which can both open and exclude draughts, and ready-made doors and sashes are probably the cheapest, in spite of the lower wages current here.

All *cast-iron work* must be imported, but probably gutter-pipes are cheaper when made on the spot out of sheet-iron.

Bricks are soft and rough and cost 1 dol. per 100. *Tiles* are always of the gutter-pipe shape and cost the same. They require a slope of 1 in 5 and run about 30 to the square yard, necessitating a heavy timber roof. Roofs, as a rule, however, are flat and made of lime and sand rubbed down with a smooth stone and washed over with hydraulic lime.

Common deal sells at 36 to 40 dol. per 1,000 ft. superficial by 1 inch thick, and *pitch pine* at about 45 dol.

Cut stone work is cheaper in Canary than elsewhere. The cheapest stuff for square corner work is "tosca," a very friable red or white stone, of which well-shaped blocks (20 in. by 11 in. by 6 in.) cost from 2½d. to 4½d. according to the distance from the quarry. Rough blocks cost less.

The cheapest and commonest method of building is to use the boulders and stones found on the spot and make a shell some 20 in. through, the interior being filled with puddled earth, which sets in this country almost like mortar. If means are taken to prevent the damp from rising, such a wall is as good a one as can be built for a low house and costs very little.

Summer is the best time for building, owing to the fact that the hours of labour are from sunrise to sunset.

For labourer's wages, *see* elsewhere.

PART V.—*Method of Agriculture and of Conveying and Storing Water, with Statistics Concerning Irrigation.*

There is but little to be said regarding the *implements* used in agriculture. The plough is simply a beam with an iron point, usually drawn by oxen, or in the eastern islands by camels. The greater part of the work is done with a heavy hoe, single and narrow in districts where the ground is hard, broad and partly forked where it is soft. It is customary for an overseer to sit by and watch the men working, even if they are very few in number. All threshing is done by oxen on paved floors, and the broken straw is used as fodder. Half the straw is considered fair payment for the work of threshing.

Manure is poor in quality owing to the way horses and cattle are fed and less is given to the ground than is customary in England, great reliance being placed on the recuperating power of the sun during the summer rest. Owing to the hilly and stony nature of most of the land, it is questionable whether the introduction of heavy machinery would be advantageous.

The medianero system.—The overseer is often also the “medianero”—that is to say, a species of tenant or bailiff receiving a share of the profits. The terms between the owner and the “medianero” naturally vary, but the following may be said to be a fair sample agreement.

The proprietor provides a house for the “medianero” and his family.

When cereals, potatoes, vegetables, or fruit are the crops, the proprietor pays for half the seed, but none of the labour and the results are divided. When tomatoes, onions, or bananas are the crop the proprietor pays half the expense of preparing the land and planting, and half of the gathering and sending into market, but none of the intermediate labour.

When cochineal is grown the proprietor pays half the seed (or rather insects) and half of the subsequent labour.

All manure raised on the farm is used on the farm unless otherwise arranged. When any is bought the proprietor pays half.

When water has to be bought half is paid by the proprietor; but all the labour of watering is provided by the “medianero.”

The proprietor buys the live stock and replaces that which dies, and pays the half of any food which has to be bought. The proceeds, such as milk, eggs and young, are divided.

Repairs are paid for by the proprietor.

Taxes are generally two-thirds proprietor and one-third “medianero.” Any losses are halved.

When land is let the tenant can claim for improvements.

The Bemfeitoria system.—In Madeira it is customary for

the land to belong to two parties, the *senhorio*, who owns the soil and the water brought to irrigate it and the tenant (*colono*) who is called *caseiro* or *meyro* according to whether he has a house upon the property or not.

The *colono* owns all the property which is the work of man and is only restricted from the building of houses without consent. With the exception of houses he may construct what he likes and cannot be ejected without full compensation, the amount being fixed by official arbitrators (*avaliadores*).

The produce of the land is halved or divided according to arrangement. Partly for this reason the hiring of land is generally most difficult, but the system, has one advantage, viz.: that it causes the tenant to add improvements in order to secure his tenure and therefore leads to the ground being brought up to its full bearing capacity.

The tenant tills, plants, manures and threshes, or, in the case of grapes, presses out the juice. He generally tries to grow as many vegetables as possible, as it is difficult for the landlord to keep them under supervision and to claim his half share.

This system of *benfeitorias* is most unpopular and the result is tyrannous to the landlord. The tenant has to keep all work in repair.

Irrigation statistics.—The next important consideration is water. Speaking generally, at over 1,500 feet irrigation is rendered unnecessary by reason of the rainfall.

Statistics have been received but are manifestly wrong. It may, however, be taken as correct that in proportion to their size the quantity of water available for irrigation is as follows:—

First, Madeira ; second, Grand Canary ; third, Teneriffe ; fourth, La Palma and Gomera ; and fifth, Lanzarote.

The last has very few springs ; Fuerteventura and Hierro have none.

Fuerteventura and Lanzarote depend on the rain which occasionally does not fall in the winter, both the islands being comparatively low and bare of trees. Lanzarote is essentially volcanic, but in Fuerteventura there are considerable deposits of limestone, which retain the moisture, and water can be found in almost any part by digging wells.

Hierro, owing to its position and to its being more directly in the course of the Gulf Stream, is less dependent upon springs.

The same remark applies to both Gomera and La Palma, in the latter of which, owing to the steep descent of the coast, water in any quantity issues from no more than four principal springs, all situated on the walls of its famous and gigantic crater.

Teneriffe, from its formation and the height of its mountains,

should apparently be best supplied, and as a matter of fact parts of it are well watered ; but if ten times as much water were available it could be profitably used.

Efforts, so far unsuccessful, are being made to find water and bring it to Santa Cruz, where it is much wanted, and there is no doubt that a fortune is awaiting the first man who perambulates the province with a properly inspired hazel-twigg. Curiously enough no one seems to have thought of sinking artesian wells in the great plain of the Cañadas round the Peak, although there are good indications of the presence of large underground springs.

Grand Canary is to be congratulated on the possession of many springs, especially of one near Tejeda, estimated to yield a supply of 2,500 cubic metres per diem (88,289 cubic feet), part of which is carried to Las Palmas by means of an aqueduct many miles in length. Grand Canary, partly from necessity, perhaps, is also far better supplied with tanks for storing water than Teneriffe.

In Madeira some of the levadas are very long, and that known as the Levada do Furado will measure 50 miles when complete. Municipal water is put up for auction every year. The holder has the first right to it at the price he was last paying, but no one may buy it for the purpose of re-selling. A fair sample of the cost of water at Funchal is that given by the Levada Piornaes near S. Martinho, one of the largest levadas, where 8 to 9 dollars a year is paid for a fourth part of the stream for one hour every fortnight.

The same quantity of water in the Canaries would scarcely be obtainable and a mere dribble will sometimes cost a dollar or more for one single hour. At Telde in Grand Canary sufficient water for 1 fanegada of land once in 15 days, was sold recently for £24 per annum.

Cost of Tanks and Watercourses.—Tanks are constructed of stone and locally burnt lime, and lined inside with hydraulic cement. The estimated cost is 1 dol. a pipe—that is to say, that, roughly speaking, a tank 40 ft. long by 40 ft. broad by 10 ft. deep, would hold 1,000 pipes, and cost about £200 less exchange. No estimate can be made of the cost of the stone watercourses, because this depends so much upon the nature of the course, etc. Over a long distance it might average from 3s. to 4s. a yard.

In Madeira the government levadas completed before the commencement of the Levada do Furado measured 110 miles and cost 500,000,000 reis or about £100,000 and the private levadas 130 miles at a cost of 230,000,000 reis or say £46,000. The government levadas include compensation and are usually those built in the most inaccessible positions.

Pipes in every way would be better and more economical because of the loss by evaporation, by leakage and by robbery from the stone channels.

Those desirous of investing capital in watercourses may find the following figures of service :—

On September 1, 1889, the water was measured at the Aguirre springs, about 5 miles away from Santa Cruz, Teneriffe. Result at the spring 37,690 litres an hour, reduced on arrival in the town to 32,729 litres, or a loss of about 13 per cent.

On July 14, 1891, the same measurement gave 35,703 litres and 26,706 litres respectively, or a loss of about 25 per cent.

On September 6, 1891, the same measurement resulted as 30,538 litres and 25,210 litres, or a loss of about 16 per cent.

It is evident that had pipes been in use nearly as much water would have arrived in Santa Cruz on September 6, 1891, as on September 1, 1889. Now 1891 was a year of drought, as practically no rain fell after March 4. The result was that water in Santa Cruz was almost unobtainable in the autumn of 1891, and irrigation was partially suspended, the water being even taken away from those who had a right to it by ancient privilege. All had to give way to the necessities of the town, and at least the orange crop was in consequence lost.

It will therefore be seen that during July, August and September, the springs which supply Santa Cruz run at the rate of about 35,000 litres an hour, and probably at least at an average rate of 40,000 litres during the whole period of 8 months (April—November), during which water is most valuable; also that the average loss between the spring and the town is about 17 per cent., or say one-sixth. It is an easy calculation to show the total loss which ensues, which is equal to about 9,000,000 gallons more or less.

Santa Cruz is only one instance out of many and it is probable that if the disposal of the water generally were under the hands of an honest and energetic man or board, working in connection with the department of forests, it might not only pay its way, but show a gradually increasing surplus applicable to the building of storage tanks, the augmentation of supply, and the replanting of the hills, with a result that in a few years or decades of years might be of the greatest advantage to the islands. By the use of pipes pollution is also rendered impossible, the yearly charge is less and those living in the neighbourhood cannot steal water on its way.

The judicial authorities can compel any landed proprietor to allow the passage of water through his territory, on consideration that he is indemnified beforehand.

In cases where wells or horizontal tunnels are made for the

sake of finding springs, the jurisdiction or parish in which the works are situated are able to demand that, in case of injury to their own springs, they shall continue to receive from any new supply which may be found the same quantity of water as before, and that if the works result in an increase in the total flow, 25% of this increase shall be retained for their use.

Water having been brought to the land is distributed by means of furrows which are successively filled. For household purposes it is stored underground in cemented tanks, and drinking water is usually fetched in barrels from the public fountain.

PART VI.—*The Fisheries.*

On the warm and shallow banks along almost the whole of the *West African Coast* fish of several species are to be found in great numbers, whilst the deep water stretching from Cape Noun on the north to Cape Blanco on the south, and bounded by the Canary Islands on the west, affords a fishing ground which has been stated by competent authorities to be perhaps the best in the world.

There are other less important fisheries, notably that of the *Selvage Islands*, half-way between here and Madeira, where a number of fishing boats are engaged during August.

There is also a company engaged in catching and tinning *tunny* and *sardines* off Gomera, which was originally established in 1884 to work at Gando Bay in Grand Canary, but has removed the seat of operations.

It is with the first fishery that this report must deal, being by far the most important and, by its situation with the sands of Africa on the one side and of Lanzarote and Fuerteventura on the other, the most adapted to any extensive operations in which the scientific drying and salting of fish or extraction of oil might be carried on at a profit.

So far but little has been done to develop it, partly because of the apathy of the islanders and partly because of the caution or jealousy of the Spanish Government.

As far as the Moors themselves are concerned they have no boats, and the population near the coast is extremely scanty, but there is no doubt that if Cape Juby or the neighbourhood ever becomes practical for the purposes of trade, there is a good opportunity for those with enterprise and capital.

Certainly one of the greatest authorities on the subject was George Glas, the Herodotus of the Canary Islands, who actually started drying fish at Mar Pequeña in 1765 or 1766.

What he might have done cannot be said, as he was seized and imprisoned by the Spaniards, but in his "History of the

Canary Islands," published in 1764, he gives the following particulars, and his remarks apply almost as much to the present time as they did to his.

That the *cherne*, a sort of cod, caught there is "much better tasted than the cod of Newfoundland or those of the North Sea," and that "another fish of a yet more excellent taste is caught here, called *mero*" (the mero is the tunny).

That about 30 ships of an average of from 15 tons to 50 tons were engaged, the smallest carrying 15 men and the largest 30 men. That during the spring the fish congregate to the north, but gradually go southward, where they are found in the autumn and winter.

The fish are very voracious, and bait may readily be caught near the shore by trailing at the rate of about 4 miles an hour, or horse mackerel can be taken with the rod and line and a piece of red flannel, or anything else.

In fine weather a bark if well manned can often load up in 4 days, the *sama* and *cherne* being taken in from 15 fathoms to 60 fathoms of water.

The fish are gutted and washed and stacked to drain; then salted and stored in the hold; but Glas says: "They do not, like the French on the banks of Newfoundland, wash their fish a second time and resalt them, so that they will not keep above 6 weeks or 2 months."

Glas was a practical sailor, and goes on to describe the kind of ships necessary, which, he states, must hold a good wind on account of having to beat up against the north-north-east breezes, which blow almost constantly more or less freshly on these coasts, except close to Africa, where the wind blows off shore in the morning and landward in the afternoon. For this reason, he says it is customary for barks to run out early in the day and fish till the afternoon, when they sail back under the shelter of some promontory and cure the fish they have caught. Needless to say this morning and evening breeze would be of particular service to curers on the African beach.

It must, however, be stated that Glas found, after setting up his establishment at Mar Pequeña, that the boat he had brought was of no use, and it was while seeking another in Canary that he disappeared into prison at Teneriffe. An account of his romantic adventures and death will be found in other works.

He says these barks make 8 or 9 voyages a year from Grand Canary, but stop at home for repairs from the middle of February to the middle of April, when the fish are only found to the northward, and in a place where the coast is much exposed to the north-west wind prevailing at that time.

To conclude what Glas has to say on the subject, it is only

fair that a man who sailed round both Fuerteventura and Lanzarote, noted the prevailing winds and tides, made charts of the harbours, passed along and explored all the Barbary coast, and personally visited places which would even now remain practically unknown were it not for the praiseworthy exertions of the British Admiralty; experimentally fished in the waters he wrote about, and eventually determined to gain his livelihood, or perhaps his fortune (for Glas was not a poor man), by their help; it is only fair that any conclusions he came to should receive the most careful consideration and be treated with the greatest respect.

Glas says:—"It is strange that the Spaniards should want to share the Newfoundland fisheries with the English when they have one much better at their own doors—I say better, for the weather here and everything else concur to make it the best fishery in the universe. What can be a stronger proof of this than the Moors on the Continent drying and curing all their fish without salt or by any other process than by exposing them to the sunbeams, etc."

He afterwards says, "That the English have no reason to be apprehensive of the Spaniards ever being able to bring it to any degree of perfection so as to rival them in the Spanish and Italian markets," from which it will be seen that Glas in his way was a prophet.

Names of the Fish caught.—The salted fish (*pescado salado*) which are brought from the African fishery at present present such an emaciated appearance when thrown on the mole that in most cases no attempt will be made to give more than their Spanish or local names. They are the *sama* (sea bream), *cherne* (often called cod), *curbina* (running up to 30 lbs. in weight), *enjova*, *congrío* (conger eel), *vieja*, *tasarte* (up to 10 lbs. and tasting, Glas says, like salmon), and *eaballa* (horse mackerel). The two last are used as bait for the others.

Besides this there are *tunny*, *porpoises*, *whales*, *flying fish*, and probably a number more which are not adapted to salting.

Number of ships employed.—Instead of the 30 ships employed in Glas's time various estimates place them now at from 50 to 80, employing from 1,000 men to 1,500 men, some of which are capable of carrying as much as 300 quintals of dried fish.

Most of the boats belong to Canary and most of the fish touches at Canary, Teneriffe, or La Palma en route for its destination, if it is not actually consumed in the islands, but it is difficult to obtain any reliable figures as to the total catch.

Those received state that the *cherne* (? cod) fishery gave, in 1868, 2,738 tons; in 1871, 1,885 tons; in 1881, 1,000 tons: and, in 1888, 284 tons, which seems to show an unaccountable

falling-off. The total annual fishery of the islands is calculated at 7,360 tons.

Whatever the figures are is of little moment. The fishery never has been properly worked, and what the production might be with well-arranged drying and salting sheds both on the islands and on the mainland, so that ships could run easily on shore on any wind, remains to be proved.

As in the time of Glas, the fish is badly cured, and will not keep long. Besides this, though habit may have endeared its somewhat high flavour and smell to the Canary Islanders, both at home and in the West Indies, the world generally prefers something rather milder and of better appearance. It sells in the market at from 0.94 to 1.25 pesetas per $\frac{1}{4}$ roba ($6\frac{1}{4}$ lbs.)

On the Island of Graciosa, north of Lanzarote, are spacious sheds, which were erected for the drying and curing of fish, but because the position was too far north for ships to run readily home, or for some other reason, the work was abandoned, and the buildings are standing idle.

In 1884 an American was engaged in negotiations with the Spanish Government with the object of obtaining a concession to build curing sheds in the south of Lanzarote. For years he had been passed from one official to another without result, and in 1885 was unfortunately drowned off the Lanzarote coast.

There is no such fishery near Madeira, but the market is usually plentifully supplied, more especially with tunny, which forms one of the chief food supplies of the poorer classes and of which three species are caught.

Salt fish is consumed in much smaller quantities than in the Canaries and comes principally from Canada, being of much better quality than the pescado salado mentioned above.

Pilchards are caught off all the islands, but not in sufficient quantities to make a paying oil industry, though this might be possible were methods employed to capture them on a larger scale.

PART VII.—*A Comparative Synopsis of the Progress of Trade in the Canary Islands.*

Values expressed in *l.* sterling at 25 pesetas.

| Year | IMPORTS | | | | EXPORTS | | | | |
|-----------|--------------|-------------|-------------|-------------|--------------|--------------|-------------|------------|--------------|
| | England | France | Germany | Spain | TOTAL | Cochineal | Wine | Spirits | Tobacco |
| 1865 | £ 179,914 | £ 51,004 | £ 11,669 | £ 47,866 | £ 391,492 | £ 295,208 | £ 11,007 | £ 4,630 | £ Wanting |
| 1869 | 215,781 | 127,979 | 11,298 | 162,690 | 719,544 | 789,993 | 5,470 | Wanting | " |
| 1874 | 206,714 | 84,771 | 8,435 | 66,000 | 486,239 | 429,931 | Wanting | " | " |
| Total ... | ... | ... | ... | ... | 1,597,275 | ... | ... | ... | 1,815,877 |
| 1884 | 163,398 | 38,785 | 26,923 | 70,035 | 335,820 | 100,844 | 6,740 | 5,530 | 10,380 |
| 1885 | 210,464 | 59,574 | 31,590 | 75,036 | 419,944 | 127,028 | 4,855 | 6,358 | 10,454 |
| 1886 | 207,380 | 70,280 | 49,115 | 45,966 | 447,568 | 151,486 | 10,009 | 10,570 | 50,937 |
| 1887 | 224,996 | 48,922 | 49,922 | 48,920 | 438,340 | 117,819 | 10,957 | 8,027 | 25,458 |
| 1888 | 273,449 | 57,306 | 56,873 | 50,875 | 476,793 | 97,050 | 21,126 | 5,456 | 21,107 |
| 1889 | 286,296 | 48,642 | 61,024 | 42,116 | 517,918 | 82,923 | 18,264 | 9,648 | 32,557 |
| 1890 | 315,259 | 70,133 | 85,954 | 39,465 | 591,136 | 60,940 | 23,963 | ... | 30,064 |
| Total ... | ... | ... | ... | ... | 3,227,519 | ... | ... | ... | 2,068,941 |
| 1892* | 307,160 | 55,826 | 84,141 | 33,876 | 575,018 | 50,877 | 20,785 | 5,761 | — |

1865.—Woven goods imported, 119,313*l.*, chiefly from England. Silk figures among exports for 12,615*l.*

1869.—The largest sum realised by the export of cochineal was in this year; price 3*s.* to 3*s.* 6*d.* per lb. in London.

1874.—Panic in cochineal; price 1*s.* 6*d.* to 2*s.* per lb. A commission was appointed by the Spanish Government for fomenting the growth of tobacco, but the results were disappointing.

1884.—Company formed to start Grand Hotel in Orotava.

1885.—About 45,000 bunches of bananas exported. Woven goods imported, 112,215*l.* The Government agreed to take tobacco of a fixed quality at a fixed price, and much land was planted in consequence.

1886.—About 300 visitors to Orotava. About 50,000 bunches of bananas exported.

1887.—Tomatoes first exported. Bananas, tomatoes and potatoes exported from Grand Canary to England roughly valued by the Consul at 16,000*l.* Owing to sale of tobacco monopoly to a company Canary crop largely refused as below sample.

1888.—Export of silk, 608*l.*; sugar, 8,500*l.* English church commenced in Orotava. Company formed for building Catalina Hotel in Las Palmas, and other objects.

1889.—The Vice-Consul at Orotava speaks hopefully about the increase in export of tomatoes and potatoes. Tobacco largely imported in the raw and exported as cigars.

1890.—Completion of steam tramway in Las Palmas (Belgian material)

*Remarks for 1892.—It is impossible to rely upon the figures being exact, but

It is difficult to say whether coal is included in the imports. The officials, who make out the returns, think it is, but are not sure. Coal is valued in Madeira at over £1 per ton in the returns. If the coal import into the Canaries is included and valued at say £1, it makes out that England, where all the coal comes from, should figure for £340,000 for coal alone. The writer concludes that coal is not included.

The chief exports are detailed and, in the notes at the side, the figures of others are given where obtainable. It is much to be regretted that, owing to the difficulty of procuring them from the Government officials, full details of export and import have not been preserved. For this reason there is no means of closely following the increase in the fruit export, as tomatoes, potatoes, onions, bananas etc., are hopelessly mixed up with one another, and the figures there are give no clue as to what goes to Europe and what to the West Indies, etc. The details of import returns are also entirely wanting, and the only statement bearing on the subject is that, in 1887, the imports were 512 tons of woven goods, 388 tons of soap and candles, 304 tons of iron goods, and 70 tons of tobacco, chiefly from England; 50 tons of pottery, 851 tons of flour, rice, etc., 103 tons of tanned goods, and 385 tons of cement, chiefly from France; 31 tons of glass, and 113,136 gallons of spirits, beer, etc., chiefly from Germany; 422 tons of cereals, chiefly from Morocco; and 769 tons of timber and petroleum, chiefly from the United States.

In reviewing the import and export returns as given above the most striking fact is that in the three years of 1865, 1869, and 1874, when a large return was obtained by the growth of cochineal, the exports exceeded the imports by £218,602, and that in the 7 years 1884—90, the imports exceeded the exports by £1,158,578, or an average of £165,511 per annum.

Excess of imports over exports.—The dividends accruing to investors are practically *nil*, and the only explanations which can be found are that the yearly remittances sent home by

the following are those obtainable. Exports of fruit:—Almonds, 7,361*l.*; Bananas, 63,601 tons, valued at 60,697*l.* (59,508 tons to England); Vegetables, 96,842 tons, valued at 130,652*l.* (59,124 tons to England and 27,970 tons to the West Indies). There is nothing to show which are tomatoes, potatoes or onions; Dried vegetables, 13,804 tons, valued at 19,380*l.* (319 tons to England and 11,735 tons to the West Indies). The exports return does not state which is Grand Canary and which Teneriffe, but it may be taken for granted that most bananas come from Canary and most tomatoes and potatoes from Teneriffe.

The attention of shipping companies might, however, well be directed to the fact that as much as 118,632 tons of fresh fruit left the Islands for England in one year. These figures are more likely to be considerably under than over the real mark. To such exports as wine, cochineal etc., it is pretty safe to add about 30% for goods not declared. The export of vegetables, etc., for the use of ships, is not included in the above return.

emigrants and the capital brought in by public works and by foreigners, either as visitors, traders or sugar manufacturers, etc., must largely help in keeping the islands going. In other words, if the balance of imports over exports in 1884, when foreign enterprise could not account for any larger proportion, be taken as a standard and £100,000 put down as the remittances sent home by emigrants, no less a sum than £450,000 must have been brought into the country in the way of improvements and development in the last seven years.

As has been previously stated these improvements consist almost entirely of additions to the means of communication, and it may be expected that such an application of labour may at once commence and continue to show a more or less adequate result.

Efforts are being made in the public offices to adopt a clear and rational method of dissecting the trade returns, and will, no doubt, be successful, in spite of the difficulty which the free entry of goods, etc., throws in the way.

Resumé.—As it is England seems to hold her ground, for comparing 1869 with 1890 we find that her proportion of imports is as $24\frac{1}{2}$ per cent. and 50 per cent respectively; that France has decreased from 18 per cent. to 12 per cent., and that Germany has risen from $1\frac{1}{2}$ per cent. to 15 per cent. These figures, however, should be to a certain extent discounted, because no doubt a large quantity of German goods are shipped in English bottoms.

Taking it on the whole, whether by true or false economy, the average Spaniard will buy the lowest priced article without paying much regard to its merit, and English traders must make allowance for this propensity.

He is also satisfied with what he buys when he might be expected to know better. A gentleman here is so accustomed to careless servants that he could not, if he would, have his saddlery or carriages nicely cleaned, and hardly anyone bestows a second thought on the decoration of his house. Modern art colours are unknown, possibly because he still resents the existence of aniline dyes. In fact, the exporters must bear in mind that their customers are passing through that stage when artificial flowers are considered superior to the natural article.

Again, though the grocers' shops are filled principally with English goods, and though the most striking advertisements on the grocers' walls are sent to him by English biscuit makers, it is the German article which sells most, and which is packed in a tin whose papered sides would lead anyone to imagine it came from London, if he did not know Hamburg to be in Germany.

Awaiting a minute and proper investigation of the nature and qualities of imports, it is probable that English merchants might benefit by pushing the following amongst other articles:

leather, which comes from France; pottery, of the cheaper sorts; glass, including window panes; iron goods, in which there is much competition from Germany, France, and Belgium; furniture, of which the chief import consists of ricketty German and French consol tables, etc.; harness, which chiefly comes from France; paper, which chiefly comes from France and Germany; chemicals, in which Germany competes; spirit, adapted to the making of wine; cement, and possibly cereals and flour (cement and flour seem to come almost entirely from France.)

Since writing the above the author is glad to say that there has been a marked advance in the imports of flour and cement from England. This was partly owing to the quarantine imposed on French vessels from Marseilles, but it is trusted that once having started it may continue. Spirit for the moment cannot be imported from anywhere because of the new duty.

A comparative Synopsis of the Progress of Trade in Madeira.

Values expressed in £1 sterling at 4\$500.

| Year | Imports (not including coal) | | | | | Exports | | | | |
|------|------------------------------|---------|---------|-----------|---------|---------|------------|-------|------------|------------|
| | England | America | Germany | Dry Goods | TOTAL | Wine | Vegetables | Fruit | Fancy Work | TOTAL |
| | £ | £ | £ | £ | £ | £ | £ | £ | £ | £ |
| 1883 | ... | ... | ... | ... | 134,736 | 108,143 | 1,260 | 1,992 | 2,820 | 152,052 * |
| 1886 | 39,372 | 26,188 | 6,393 | 19,592 | 116,701 | 160,410 | 2,600 | 2,646 | 4,707 | 176,142 |
| 1887 | 71,550 | 21,149 | 4,244 | 15,631 | 122,458 | 156,439 | 3,070 | 2,598 | 4,243 | 204,273 † |
| 1888 | 72,769 | 17,685 | 6,658 | 27,832 | 131,993 | 168,630 | 4,873 | 3,835 | 5,232 | 188,047 † |
| 1889 | 65,864 | 18,194 | 6,937 | 25,410 | 130,977 | 151,250 | 3,514 | 4,245 | 6,103 | 169,985 |
| 1890 | 58,794 | 25,936 | 10,155 | 26,640 | 175,894 | 154,249 | 2,291 | 5,523 | 5,978 | 171,393 § |
| 1891 | 34,297 | 38,761 | 14,091 | 29,118 | 146,104 | 174,493 | 2,821 | 4,399 | 2,177 | 188,453 |
| 1892 | 20,083 | 28,782 | 5,807 | 17,230 | 114,227 | 146,009 | 560 | 4,637 | 2,332 | 163,001 :: |

* Sugar £34,107. † All the sugar cane killed by disease.

‡ New cane from Demerara and the Canaries looking healthy.

§ Consul Keene reports that dry goods chiefly imported from Germany and little from England.—Also says that export of fruit and vegetables is very much understated.

|| Consul reports entire cessation of dry goods from England owing to excessive import duties.—Says increase in export of wine due to large shipments with object of evading new French protective tariff coming into force at end of 1891.

:: No wine sent to France.

NOTES. The imports from France for six years (1887-1892) amount to less than £32,000.

The export of bananas from Madeira is said to be some 30,000 bunches a year, but this is simply an estimate. The consumption of coal in the island (estufas, sugar-mills, etc.) is about 2,000 tons a year.

Amongst the exports of Fancy work, which includes embroidery, wicker-work, and inlaid wood, the sales to passengers on board steamers and the very large amounts sent away without being declared, are not included. The figures given above may therefore be doubled or even trebled.

In the Madeira returns the stability of the exports is the most healthy sign. Wine forms some $\frac{1\frac{5}{8}}{10}$ of the whole and provides employment to a number of men in the making of casks etc., as well as in the actual cultivation. The result is a large import of American oak, and of cereals from the United States.

The most unhealthy sign is the sudden falling off in the imports, due to the enormous rise in the duties. Consul Keene's statement that the import of dry goods from England had entirely ceased in 1891 is not borne out by the further falling off in British imports in 1892. The writer's experience does not point so much to a want of energy on the part of English firms, as to a system of giving long credits by German houses.

With the possible fluctuations in the Portuguese currency of the immediate future, consignments on long credit are of a distinctly speculative nature. The good mercantile houses in Madeira and the Canaries will, almost always, meet their obligations if they can, but it is impossible to say what might happen to a man accepting bills in gold and selling goods, on which perhaps a 50 % duty has been paid, to an impoverished peasantry against currency notes, quoted at a very heavy discount. The local retailer must again give credit and, though there is plenty of gold buried away in old Madeira stockings, it will never be brought out to pay similar debts.

If the Portuguese currency should suddenly collapse, the state of affairs in Madeira will become most complicated, as a certain number of Bank of Portugal notes are marked for circulation in Madeira alone. Those holding specie in both countries refuse to part with it if they can avoid doing so, and it is even now difficult to remit money from Funchal to Lisbon or *vice-versa*.

Still, Madeira is only suffering, like the rest of the world, from the insane efforts of the various governments to tinker up the respective tokens of the countries they severally represent and whose laws of supply and demand they respectively try to frustrate, and in spite of it all the people dress very respectably. Boots are nearly always worn and the quality of the people's clothes is superior to that in the Canaries, where there are no duties on manufactures.

Resumé.—As regards what is wanted *Imports* consist of almost all necessary articles, such as soft goods, iron, timber and groceries. Food is also largely imported.

During the six years 1886-91 the average yearly import of Maize was £29,015; of Wheat £15,551; of Rice £4,333; of Molasses £8,271, or a total annual outlay on these four articles of £57,170. In 1890 Maize and Wheat alone rose to £53,617. The Cereals grown in the island are supposed to yield sufficient for 3 or 4 months per annum.

PART VIII—*Statistics of Population, Emigration, & Education.*

RETURN showing the Population of the Canary Islands.

| Islands | 1834 | 1867 | 1877 | 1887 | Area in Square Miles | Population to Square Mile in 1887 |
|-------------------------------------|---------|---------|---------|---------|----------------------|-----------------------------------|
| Teneriffe | 71,000 | 93,709 | 105,366 | 109,993 | 919 | 119 |
| Grand Canary | 57,615 | 68,970 | 90,154 | 95,415 | 634 | 150 |
| Palma | 28,700 | 31,308 | 38,872 | 39,605 | 318 | 124 |
| Gomera | 9,497 | 11,360 | 12,024 | 14,140 | 172 | 82 |
| Hierro | 4,336 | 5,026 | 5,422 | 5,897 | 122 | 49 |
| Fuerteventura | 11,860 | 10,996 | 11,609 | 10,130 | 797 | 13 |
| Lanzarote | 16,176 | 15,837 | 17,517 | 16,409 | 380 | 43 |
| Total | 199,194 | 237,206 | 280,964 | 291,589 | 3,342 | 87 |
| Increase on preceding census | ... | 19% | 18% | 4% | ... | ... |
| Males | ... | ... | ... | 130,745 | ... | ... |
| Females | ... | ... | ... | 160,844 | ... | ... |
| Population to sq. mile | 59 | 71 | 84 | 87 | ... | ... |

George Glas stated in 1764 that the population of Teneriffe was 96,000; of La Palma, 30,000; of Hierro, 1,000; and estimated that of Canary at 40,000; of Fuerteventura at 10,000; of Lanzarote at 8,000; and of Gomera at 7,000.

Population of the Principal Towns.

| | 1867. Number. | 1877. Number. | 1887. Number. |
|----------------------------------|------------------|------------------|------------------|
| Las Palmas (Grand Canary) ... | 14,233 | 17,789 | 20,756 |
| Santa Cruz (Teneriffe) ... | 12,952 | 16,689 | 19,722 |
| Total | 27,185 | 34,478 | 40,478 |
| Increase on preceding census ... | ... | 27 per cent. | 17 per cent. |

Movement towards towns.—It will thus be seen that where the whole population increased from 1867 to 1877 only 18 per cent., the increase in the two coaling stations, which best represent our own English manufacturing towns, was 27 per cent.; and in the next decade 4 per cent. in the country generally against 17 per cent. in the towns.

As the coaling stations only commenced to be of much importance about the year 1887, a very much larger proportional increase may be expected in 1897. For reasons given on page 245 considerable allowance must be allowed for the understatement of population both in town and country in order to avoid taxation. Such misstatement being, however, a constant factor tends to equalise itself.

Deaths.—The average annual mortality during the five years 1886-90 inclusive was :—

| | Number. | Per Thousand. |
|---------------------------|---------|---------------|
| In the province | 5,274 | 18 |
| Las Palmas | 587 | 28 |
| Santa Cruz, Teneriffe ... | 452 | 23 |

as against 26 per 1,000 for the whole province in 1834.

Statistics show that the greatest mortality takes place before the age of 10, after which comes from 60 to 70, and then from 50 to 60.

Births.—The average annual number of births for the same periods was :—

| | Number. | Per Thousand. |
|------------------------|---------|---------------|
| In the province | 8,874 | 30 |
| Las Palmas | 901 | 43 |
| Santa Cruz | 431 | 22 |

as against 43 per 1,000 for the whole province in 1834.

These somewhat remarkable figures are rather contradictory to those of the census of 1887, but, by showing a rate of increase in population of 12 per cent. per annum for the whole province as compared with 4 per cent. in the decade 1877-87, would seem to indicate that since the large influx of visitors commenced (the Grand Hotel in Orotava was opened in 1886) the standard of living has been higher than it was immediately before.

As regards 1834 it must be remembered that the wine trade was then prosperous, and provided plenty of congenial work to the people who had not yet been disturbed by the feverish excitement of the cochineal times. 1834 was the year of the abrogation of the law of entail.

The reason why Las Palmas should have a higher death-rate is not clear as the town is apparently quite as healthy as Santa Cruz. The 43 per 1,000 births tend to show that the population is gaining money fairly rapidly, probably because of the impetus which has been given to business generally. The 22 per 1,000 births in Santa Cruz may be explained by the fact that lodging is dear and expensive and that children are inconvenient, or by faulty registration. The deaths must, however, necessarily be correct as no one can be buried without a certificate.

Return showing the population of Madeira.

| | 1768. | 1835. | 1870. | 1883. | Area in sq. m. | Population to sq. mile in 1883. |
|-------------------------------------|--------|---------|---------|---------|----------------------|---------------------------------------|
| | 63,912 | 113,436 | 125,000 | 134,011 | 240 | 558 |
| Increase on pre- ceding census } | ... | 77% | 10% | 7% | ... | ... |
| Males ... | ... | ... | ... | 63,740 | ... | ... |
| Females ... | ... | ... | ... | 70,271 | ... | ... |

No. of houses in 1878, 28,957. Population at the time 132,221, or 4·6 to a house. There was an epidemic of cholera in 1856 which carried off a large number. Funchal, the only large town, contains about 35,000 inhabs.

Deaths.—The last return gives the annual death-rate as 28 per mil. and the average length of life as 35 years. It is stated that there is great mortality amongst the children.

Were the natural increase of the people to remain unchecked the islands would soon become hopelessly crowded. As it is they are very full and the proportion to the square mile is in reality misleading, because of the small area of the land capable of being brought under cultivation. This is probably about $\frac{1}{7}$ in the Canaries and about $\frac{2}{7}$ in Madeira.

Emigration.—One check is supplied by emigration which, although rarely permanent and sometimes very temporary, yet often entails the separation of husband and wife during several years. It is customary for the man to leave the women and children behind and to remain away until he can bring back enough money to buy a little piece of land or a house.

No Canary emigration returns have been received except for Teneriffe, but these are fairly characteristic of all the islands and are—Emigration for three years 1889-91, average per annum 5,071, or 46 per 1,000; immigration for three years 1889-91, average per annum 4,528, or 41 per 1,000.

The proportion in La Palma is probably more, and Fuerteventura and Lanzarote suffer so much in bad years that sometimes half the population migrate for a time to find food and wages where they can.

In Madeira emigration is increasing. For the 12 years 1872-83 inclusive it was 8,203 or an average of 683 per annum. For the 5 years 1887-91 it was 12,240 or 244·8 per annum. The tendency is also greater than in the Canaries for emigrants to go away and not return.

Some of the steam ship companies canvass actively for emigrant passengers, and the sailing ships taking away wine, onions, filters, paving stones, etc., to the West Indies also take a great many.

As far back as 1750 there was a great trade and a permanent emigration to the same quarter, and a large proportion of Government officials in the West Indies were from the Canaries. These seem to have enjoyed to a certain extent the very unenviable reputation that our own East Indian Nabobs did at the same period.

The Canary islanders seem to have benefited so much by the strain of Guanche blood they possess that they are much in request, and are reputed to be the best of all Spanish colonists.

There is a fashion in emigration as in other things, and

scarcely a family can be found of which some member is not absent. The people of La Palma nearly all go to Cuba; those of the north of Teneriffe to Cuba and Venezuela, and those of the south to Brazil; those of Lanzarote and Fuerteventura to Montevideo, etc., and those of Canary indifferently to many places, and largely to Buenos Ayres.

The Venezuelan Government pays the passage one way of emigrants stopping not less than 12 months. The price of a berth to Cuba by sailing ship is 16\$, and by steamer 20\$; but the landowners in Cuba are willing to pay an emigrant's ticket on condition that the amount is gradually repaid by deduction from his wages. To Buenos Ayres, Montevideo, and Rio Janeiro there are no assisted passages, and the fare is from 20\$ to 25\$ by steamer. There is practically no communication by sailing ship.

Emigrants from Madeira formerly went to Demerara and the Sandwich Islands but now go chiefly to Brazil.

There is no doubt that emigrants might be easily induced to go as labourers to South Africa if it suited the steamship companies to cater for them, and they could leave in sufficient numbers to provide company for one another. As they would almost all return as soon as they had saved a little money, it might also suit the views of the Afrikander Bond.

Number of taxpayers.—The number of taxpayers fairly well illustrates the occupations, and to a certain degree the extent of holdings of the people, two items on which no information could be obtained.

| | | | | | | | <i>Canaries.</i> | | <i>Madeira.</i> |
|--|-----|-----|-----|-----|-----|-----|------------------|-----|-----------------|
| Territorial taxpayers (including house property) | ... | | | | | | 64,887 | ... | 38,868 |
| Industrial | „ | ... | ... | ... | ... | ... | 2,556 | ... | 4,513 |
| Total | ... | ... | ... | ... | ... | ... | 67,443 | ... | 43,381 |
| Per mil | ... | ... | ... | ... | ... | ... | 231 | ... | 328 |

Electoral rights.—The right of voting at elections in Spain is given to all men who are Spanish, are 25 years of age, and have been registered residents since two years. In Portugal the age is 21, but the voter must be able to read and write, be a householder or have an income of 100\$.

Religious freedom.—There is perfect freedom of religious belief as far as civic and military rights are concerned; but no church which is not Roman Catholic is allowed to advertise its existence by a bell or exterior emblem.

Education.—The attendance of children at school is compulsory in Spain under penalty of a fine. In addition to this no man may hold any Government appointment unless his children do attend. No payment is exacted from the children of the very poor.

There are 264 public and 59 private schools in the *Canaries*.

Public schools are divided into primary and secondary, and primary into complete and incomplete, the latter being the most elementary, and only to be found in country districts, where the interruption to studies admits of little being taught. Of the 264 schools, 27 are incomplete, 230 complete, and 7 superior or secondary, the principal establishment in Laguna, Teneriffe, being that which is entrusted with the general supervision by examination. The 264 are again divided into 150 for boys and 114 for girls.

The amount expended on education is not very great, and teachers, whether male or female, are paid in accordance with the population of the district; thus with 1,000 inhabitants the salary is 200 pesetas; up to 3,000, 825 pesetas; up to 10,000, 1,100 pesetas; above 10,000, elementary teachers 1,375 pesetas, and secondary 1,625 pesetas, and in one case 2,000 pesetas. In addition to this all are entitled to a house rent free, and a supplement of 25% to their salary to pay for the expenses of stationery, etc. The fees of those able to pay are from 1 peseta to 5 pesetas a month, and are also retained by the teacher. Schools are also maintained by some of the mutual benefit societies for the use of the children of members.

That the result of such a system should be favourable is clearly impossible. Firstly, the salaries are insufficient to attract men of superior intellect, or to enable teachers to be sufficiently disinterested in forcing children to come to school and eat up a part of their slender pittance by demands for pens and paper.

The consequence in 1887 was a total reported attendance of 9,548 boys and 7,002 girls, to which perhaps should be added 1,225 boys and 1,587 girls who attended the private schools; total, 10,773 boys and 8,589 girls; together 19,362, or 6.64 per cent. This attendance must have been greatly exaggerated, for though the census returns are very incomplete, and from the methods of taxation previously mentioned probably very incorrect, they give in all probability a better idea of the standard of education, which is the following:—

In 1887, from a total population of 291,589, 80.08 per cent., or 233,528 could neither read nor write; 12,948, or 4.45 per cent., only knew how to read; and 45,103, or 15.47 per cent., knew both reading and writing. There is no means of ascertaining the age, sex, or occupation of these, nor the proportion of urbans and rustics; but from the size of the islands, the number of schools and the small proportions of the incomplete primary schools as compared to others, the difficulties of attendance do not appear to be unreasonable, and the result seems lamentably small.

In *Madeira* all parents are obliged to send their children to school between the age of 6 and 12.

There are 68 primary public schools in the island, 38 for boys with an attendance of 3,777 and 30 for girls with an attendance of 2,515. Of these 66 are elementary but 2, situated in Funchal, are complementary and are attended by 908 pupils of both sexes.

In Funchal teachers in elementary boys' schools receive 180\$, in girls' schools 120\$, and in complementary schools 264\$ per annum. In country districts the first two figures are reduced to 120\$ and 100\$.

In addition to the above there are 40 private primary schools, 6 for boys with an attendance of 441 and 34 for girls with an attendance of 1,312.

For secondary education there is the Lyceum at Funchal with 9 professors and about 180 scholars. The chief of the establishment, known as the Rector, is appointed by Government and the course consists of 4 years with two supplementary courses of 2 years each.

As regards medical instruction a school is attached to the Civil Hospital in Funchal with 4 professors. The course is for 4 years and comprises instruction in diagnosis, surgery, anatomy (with dissection) and pharmacy.

The Theological Seminary, which is partly supported by Government, has about 50 pupils.

The statistics for 1878 showed that there were only 7 % in Madeira who could both read and write and another 3 % who could read only. Were later figures obtainable there is no doubt that they would show a more favourable result.

PART IX.—*Government Valuation of Land and Methods of Taxation (National and Municipal).*

An estimate for the year 1869 states that all the cultivated land, including woods, vineyards, and pasturage in the *Canaries* amounted to 541,032 acres (845 square miles, or 15.8 per cent. of the whole); and another in 1890, that the total amount of irrigated land in Teneriffe was 5,830 acres (4,495 fanegadas), and in Grand Canary 9,481 acres (6,971 fanegadas).

The following figures are the last official valuations made by the Government for the purposes of taxation :—

| | | | | ANNUAL VALUE OF— | | |
|-------------------|-----|-----|-----|------------------|-----------------|-----------------|
| | | | | Land. | Houses. | Cattle. |
| | | | | <i>Pesetas.</i> | <i>Pesetas.</i> | <i>Pesetas.</i> |
| Teneriffe ... | ... | ... | ... | 2,606,112 | 956,930 | 48,397 |
| Grand Canary ... | ... | ... | ... | 2,533,337 | 497,240 | 52,686 |
| Palma ... | ... | ... | ... | 574,400 | 89,200 | 9,683 |
| Gomera ... | ... | ... | ... | 213,721 | 18,715 | 5,994 |
| Hierro .. | ... | ... | ... | 93,844 | 10,124 | 5,522 |
| Fuerteventura ... | ... | ... | ... | 234,460 | 20,178 | 16,024 |
| Lanzarote ... | ... | ... | ... | 429,744 | 86,263 | 22,942 |
| Total ... | ... | ... | ... | 6,685,618 | 1,678,650 | 161,248 |

together 8,525,516 pesetas, on which a taxation of 25 per cent. would amount to 2,131,000 pesetas.

In 1869 when cochineal was at its height land was valued at 8,281,286 pesetas, and the total actual taxation was 2,431,732 pesetas, of which 1,978,838 pesetas were national and 452,894 pesetas voted to the municipalities. Besides this the municipalities received the market dues, etc.

This result need not be interpreted as showing that the value of land now is as 6,685,618 pesetas to 8,281,286 pesetas of what it was worth then, because considerable allowance must be made for the laxity of officials.

The amount of money lent on *mortgage* could not be ascertained at either period.

Taxation seems to be chiefly directed against the poorer classes, and imposed upon articles which are necessary, so that a contribution to the State cannot be avoided, whilst articles of luxury and manufactured goods come in free. For this reason, and because of its effect upon the value of land and on industry, the condition of the labouring classes is more immediately influenced by taxation than in England.

Classification of Taxation.—Taxation is of two classes—first, national or devoted to the purposes of the treasury (“tesoro”); second, municipal, or devoted to the expenses of the town and neighbouring roads (“caminos vecinales” and not high roads, which belong to the State).

All taxes are regulated in proportion to the population of the parish, town, or district. On this account it is customary to find the census returns hesitate considerably at the round figures, the passing of which greatly increases the burden to be borne all round. In the case of taxable salaries, the percentage varies according to the amount of the salary.

NATIONAL TAXATION.

Direct, such as on taxes which affect Foreign Enterprise.

1. *Farms and Houses.*—Farms are taxed in accordance with their annual value, which is estimated by the authorities of the parish or jurisdiction. Land is valued as first class, second class, and third class, of irrigated or of dry; first class land in one locality may only equal second class land in another, and be taxed accordingly.

Houses are taxed on their estimated rental, which may be higher or lower than the actual, and a deduction of 25 per cent. is allowed for repairs, etc.

The rate on houses is about 22 per cent. in the towns. On farms and farm-houses from 2 per cent. to 3 per cent. less. There is no direct taxation of named crops; but it will be seen

how the above method prevents any reliable statistics of the productive power of the land, and that, were the law rigidly enforced at a true valuation, land would be much cheaper than it is.

2.—*Industries and Commerce*.—A factory is taxed in accordance to the number of the machines employed, and according to the population of the neighbourhood. The result of this method of taxation being that there are hardly any factories.

Stores and shops are divided into nine classes, and are taxed in a constantly diminishing scale. The classes are—

1. Wholesale vendors of groceries, steel, and iron.
2. Wholesale vendors of manufactured stuffs and silks.
3. Vendors of ready-made ironmongery, fine woven goods, cereals, and flour.
4. Cafés, restaurants, and vendors of woollen cloth and salted fish.
5. Vendors of sewing machines, mouldings, lamps, rice, peas, and native wines.
6. Vendors of books, stationery, eatables, and watches.
7. Vendors of hats, salt (retail), and hotels.
8. Pedlars and vendors of beer, aerated waters, chandlery, and porcelain.
9. Vendors of earthenware, seeds, and matting, and carpenters.

Various Taxes.

Duties on probate and conveyance of property, mines and titles.

Cédulas personales, a species of passport which all must hold, and which must be renewed annually at a cost of from 0.50 pesetas to 100 pesetas (50 per cent. of this belongs to the municipality).

On the salaries of State or municipal officials, and on fees for the registration of property.

On Government contracts which are taxed in accordance to their importance (deductions are made when paying the contractor).

Indirect taxes such as—

1 per mil. on all imports, as well as:—Wheat, 3 pesetas per 100 kilos.; maize, barley, and rye, 2.25 pesetas; oats, 2.60 pesetas; flour made from the same grains, 50 per cent. additional; coffee, 60 to 140 pesetas; sugar from the West Indies, 33.50 pesetas and from other sources 82.25 pesetas; salt fish, 3 pesetas; tobacco, from 0.25 peseta to 1 peseta the pound; fermented or distilled liquors (industrial spirit) from abroad, 1 centimo per litre for each degree of strength, or national, such as from Spain or Cuba (or excise) 31 centimos per litre, irrespective of strength.

Duties on travellers' tickets, telegraphs, telephones, etc.

Port charges.—Port charges, which are as follows :—

Pilotage, 30 pesetas on entrance and departure, and 50 per cent. more at night. Grand Canary, pending a settlement of regulations, is temporarily less.

Clearance, 16·25 pesetas. Board of Health, 15 pesetas in addition to sundry small charges for stamps on manifests, etc.

Arrivals are charged per ton of 1,000 kils. landed :—

If coal, 0·25 peseta ; if goods from Europe, 1 peseta ; from Spain or the West Indies, 0·75 peseta ; from other ports, 2·50 pesetas. Passengers who land to stay, 0·75 peseta, 0·50 peseta, and 1·25 peseta each respectively.

Departures are charged per ton :—

If coal, 0·25 peseta ; if goods to Europe, 1 peseta ; to Spain, etc., 0·50 peseta ; to other ports, 2 pesetas ; and passengers, 1 peseta, 0·50 peseta, and 2 pesetas respectively.

Pilotage is not compulsory on vessels anchoring outside the harbour.

50 per cent. of the “fielato,” or octroi, on goods entering town.

MUNICIPAL TAXATION.

50 per cent. of the “fielato” mentioned above, which is levied in the following manner :—

First, a rate is fixed by law on all consumable goods brought into the town, and on the basis of this rate and the population the Government declares what amount ought to be returned to the Public Treasury. This amount is doubled by the municipality, and tenders invited from those willing to farm the tax. What remains above the Government quota belongs to the town, and the farmer makes what profit he can, often a very large one, but cannot increase in any way the rates fixed by law.

All animals killed inside the limits must also pay the “fielato” duty.

Some of the rates are, for instance, all birds entering Santa Cruz, 0·21 peseta each ; fish, 0·04 peseta per kilo. ; meat, butter, etc., about 0·21 peseta per kilo. ; petroleum, 6·25 pesetas per case of 65 lbs., etc.

50 per cent. of the tax on personal cédulas.

Market and slaughterhouse dues, etc.

Military Service.

An extremely heavy tax is that imposed for the purposes of national defence.

Able-bodied men are liable to be called out during 12 years which must be between the ages of 18 and 33, and all are com-

pelled to serve in the ranks for three years unless they can obtain exemption because of physical inability, or because of their being necessary for the support of a widowed mother, etc. The local militia may be ordered to Spain to serve their term or *vice versa*. Able-bodied men, exempted from three years' service, must attend drill on one Sunday in each month.

The islands are garrisoned as follows :—

Of infantry there are in Teneriffe one battalion under arms, and three battalions of the reserve; in Canary, one battalion under arms and one of the reserve; in Lanzarote and Palma, each one battalion of reserve. There are also one battalion of artillery in Teneriffe and one company in Canary. A company is composed of 100 men and a battalion of 1,000 men, but most of the battalions are merely skeletons.

Madeira.—The estimate of the *annual value* in 1889 was: for land 643,110\$ (£128,622 at 5\$ to the £1); for houses, 111,990\$ (£22,398).

The taxation on land was 67,232\$ or 10.006%; on houses and luxuries such as men servants, horses, carriages, etc. 10,300\$ or 8.59%. Both together make 77,753\$ (£15,506) of which £14,831 was for the State and £675 for the municipalities. Industrial taxes amounted to 19,185\$ (£3,837).

The industrial taxes are levied on an industry, which is estimated at so much yearly value. The representatives of that industry thus have to meet and apportion the amount fairly among themselves that they should each pay towards it. Houses of less than 15\$ annual value pay no tax.

Machinery in Madeira is taxed irrespectively to its position but shops are taxed according to their trade and their "ordem," *i.e.*, according to the size of the town they are in. There are 6 ordems.

Port charges.—These are practically abolished by a decree expiring in 1895, which will probably be renewed. If a pilot is taken a payment of 10s. must be made and certain small charges are made to ships for the sake of insuring punctual despatch. There are some trifling custom-house charges which are obligatory.

Military service.—Able-bodied men are liable from 18 to 25. One battalion of foot and a small detachment of artillery are usually kept in the island.

Some of the duties imposed in February, 1892, on goods entering Portugal (and consequently Madeira) will be found below. The direct duties payable to the State are given first; those in italics being the additional municipal (Octroi) duties levied on articles entering the island by sea. The octroi duties are levied on the meat obtained from animals killed in the island, etc.

Articles of consumption.—Wheat and wheat flour, special law, sliding scale, 5—20 reis a kilo; maize, 18 reis per kilo; other grain, 22 reis; ordinary flour, 22 reis; rice, 39 reis; beans, 15 reis; fish (salted or dried), 5 to 39 reis; lard, 200 reis; sugar and molasses 120—145 reis; preserved meat, 60—200 reis; butter, 250 reis; margarine, 400 reis; coffee, 400 reis; tea, 1,000 reis; beer, 840 reis the decalitre; spirits, 1,930—2,500 reis; wine, 3,600 reis.

Rice, 2 reis per kilo; beans, 5 reis; salted cod, 10 reis; salt fish, 5 reis; lard, 10 reis; sugar, 15—30 reis; preserved meats, 20—25 reis; butter, 50 reis; coffee, 20—30 reis; tea, 100 reis; beer, 150 reis the decalitre; spirits, 700 reis; wine, 200 reis; and vegetables, 10 reis.

Articles of necessity.—Coals, 345 reis per ton (only on what is consumed); leather, 300 reis per kilo; woollen yarn, 1,400—2,300 reis; blankets, 1,200 reis; woollen cloth, up to 2,300 reis; knitted goods, 1,500—1,800 reis; cotton thread, 150—1,050 reis; silk thread, 1,500 reis; calicos, etc., 250—900 reis; common earthenware, 15 reis; finer pottery, 200 reis; porcelain, 300 reis; needles, etc., 500 reis; cutlery, 750 reis; rope, cord, etc., 100 reis; fishing nets, 120 reis; all boats and sailing ships or steamers up to 200 tons, 13% ad val; tools, instruments and machinery, 15% to 30% ad val, or 20—100 reis per kilo; wheeled vehicles, 24—280 dollars each; clocks from 1,000 to 20,000 reis each or 40%; spectacles, optical instruments, etc., 2,000 reis per kilo; soap, 60—300 reis; candles, 120 reis; iron pipes, etc., and all metals, whether worked or unworked, pay a duty.

Leather, 20 reis; woollen yarn, 80 reis; blankets, 50 reis; flannels, 150 reis; silk thread, 400 reis; cotton thread, 10—15 reis; soap, 6 reis.

Articles not absolutely necessary.—Leather boots and shoes, 2,500 reis per pair, and of other material, except silk, 1,500 reis; clothes made-up or cut to pattern, 3 times the duty of the cloth in the piece. Brushes, 1,000 reis per kilo; umbrellas, 700—1,200 reis each; writing paper, 140 reis per kilo; brooms, 300 reis per kilo; trunks, etc., 1,200 reis each; sewing machines, 10 reis per kilo.

Boots, 600 reis; cut up or ready-made goods 50% extra; umbrellas 50—160; dried hides, 10 reis per kilo.

Articles of luxury.—Gold articles, 120 dollars per kilo; silver, 35 dollars per kilo; plated goods, 400 reis; furniture, 600—2,000 reis per kilo (incl. wood); handkerchiefs, 1,000 reis per kilo; linen table cloths, etc., 1,000 reis; cambrics, etc., 900—1,000 reis; waterproofs, 1,000—2,500 reis; untrimmed hats, 200—1,500 reis each; mirrors (incl. frames) 3,000 reis per sq. metre; pianos, 50 dollars each; musical instruments,

40% ad val ; guns, 1,500—5,000 reis each ; revolvers, 2,500 reis each ; loose gunpowder, 270 reis per kilo ; pictures, 10% ; foreign books, 100 reis per kilo or if bound in leather, 510 reis ; lamp-wicks, 1,200 reis ; blacking, 150 reis ; made-up medicines, 2,000—5,000 reis ; manuf. tobacco, 2,160 reis ; cigars, 264 reis ; carpets, 600 reis ; oil cloth, 150—1,000 reis.

Ladies sundries.—False hair, 5,000 reis per kilo ; dyes, etc., 40% ad val ; chemical products (not specified in the schedule,) 13% ad val ; perfumery, 1,000 reis per kilo ; artificial flowers, 15,000 reis ; fans, 2,000 reis per kilo ; feathers, 2,000 reis ; gloves, 400—600 reis per pair ; furs, 1,200—8,000 reis per kilo ; trimmed hats, 2,000 reis each ; silk boots, 2,000 reis the pair ; fancy buttons, 500—1,200 reis per kilo ; passementerie, 2,500—10,000 reis per kilo ; lace, 1,800—3,000 reis per kilo ; ribbons, 7,000 reis ; woollen shawls, 3,500 reis ; cloth with silk threads, duty of cloth plus, 40% ; cloth with more than 50% of silk, 6,000 reis ; pure silk, 7,500 reis ; silk stockings, 7,000 reis ; silk cravats, 13,500 reis.

Gold (worked), 4,000 reis the kilo ; silver, 1,500—2,000 reis ; nearly all metals, sheets, cambrics, etc., 40—180 reis ; linen sheeting, 70—250 reis ; carpets, 80—160 reis ; perfumery, 70 reis ; artificial flowers, 1,500 reis ; silk goods,—pure, 1,000 reis ; half silk, 500 reis ; with silk threads, 800 reis ; shawls, etc., 150 reis ; passementerie, 200 reis ; hats, 50—250 reis per kilo.

Export duties.—Wine 50 reis per decalitre. Manufactures, 1½%.

Partly worn goods are liable to be taxed. Only silver plate, carriages and one or two other things can pay duty on deposit.

PART X.

The Sections referring to *Local Government, its Resourees, Expenditure and Duties ; Methods of administering Justice with statistics of crime ; Municipal and State aided Charity ; Encouragement of Thrift ; Mutual Benefit Societies ; Conduct of Hospitals and Public Institutions, etc.*, will be found in the Report from which this is extracted. (Pages 45 to 50).

Some additional information has been gained, the figures referring to Madeira have been classified and the whole are at the service of any future writer on the subject who really requires them.

The author cuts out the following paragraphs :—

Justiec.—Legal proceedings are tedious in the extreme, the results are most uncertain, and no foreigner should indulge in such an expensive and unsatisfactory amusement if he can help it.

Conduct of the hospitals.—The conduct of the hospitals, which, taking all the circumstances into consideration, is most excellent, is mainly due to the efforts of the local ladies' committees, who are admirably seconded by the sisters of charity. Private rooms may be secured by the payment of a very moderate sum; the public rooms are free.

Begging.—Beggars are by custom allowed to ask alms on Saturdays, and destitute persons can obtain permission from the Alcalde (Justice of the Peace) to beg at any time. Indiscriminate charity of this sort is an institution, and beggars are numerous on every day in the week.

Wants of the poor.—The wants of the poor are few, and when from old age or other reasons it is impossible to earn a living by work, the neighbours, who are probably all more or less related, will never allow a family to starve. If room cannot be found in the houses, there are the caves or lava streams in the neighbourhood where dwellings can be erected rent free. Clothing consists of nothing more than a linen shirt and drawers and a worn out blanket, and for food a little "gofio" or potatoes will suffice. The standard of comfort is so small that a bed is not a necessity, and to sit all day doing nothing in the sun is only what is customary to everyone during idle moments.

In fact, the destitute are nearly as well off as the wealthy, and all the administrative expenses of more highly organised charity are done away with, whilst in country districts it is much more difficult to impose upon one's neighbours than it would be on an appointed officer foreign to the intricacies of local affairs.

Taking them all in all the Fortunate Islands of Homer and of Pliny remain the Fortunate Islands still, though it is said that some people do not believe the present inhabitants to be directly descended from the Grecian heroes.

PART XI.—*Position of Labour.*

Factory laws have not been found necessary, but the employer is criminally responsible for the result of accidents to his hands when he fails to appoint a qualified manager to look after the conduct of the work; and the manager is criminally responsible when it can be proved that he has not done his duty.

Wages.—Skilled artisans in the Canaries receive from 3.50 pesetas to 4 pesetas per diem in the towns and from 2.50 to 3 pesetas in the country. In Madeira the wages would be 700—800 reis in the town, 500—600 reis in the country.

A labourer or carter receives from 1 peseta to 1.87 pesetas a day and in Madeira from 200—350 reis. Labourers on the public roads or in quarries where there is a certain amount of danger receive a trifle more.

For breaking stones on the high-road 2 to 3.50 pesetas per cubic metre.

A man and a mule or camel from 2.50 pesetas to 3.75 pesetas per day, with one feed for the animal.

Stone-cutters 1.25 pesetas to 3.75 pesetas per day in accordance with skill. The Canary stone-cutters are the best and cheapest and rarely get more than 3 pesetas per day, labour in Canary being rather cheaper all round than in Teneriffe. In Madeira 400—600 reis.

Women in almost any employment are paid from 0.50 peseta to 1 peseta a day. Among the lower classes the woman is very badly treated. That she should work in the fields is only natural, but the husband, brother, or even son is a species of petty tyrant who struts about the yard like a cock on a dung-hill, and ninety-nine times in a hundred, if on his way to the town in company with his wife and his donkey, he rides the donkey and she carries the burden on her head. A great weight is often so supported, and, though a man will carry things when alone, he never does so if a woman is with him. In fact, except during courtship, this slave of a slave does not hold a position one iota superior to that of an ordinary Indian squaw.

Women are a little more considered in Madeira but their wages are no higher.

Domestic servants are fed in the house and receive approximately, for a man or cook, 3\$ to 4\$ a month; a maid 2\$ 50 c. to 3\$. They always drink water, and the cost of their keep may be roughly estimated at about 0.75 peseta a day each.

In Madeira they are supposed to find their own food and a man is paid from 6\$ to 9\$; a cook 6\$ to 9\$; a maid 4\$ to 6\$, actually less than they receive in the Canaries.

In the outlying islands and in places where the male hands have not been excessively reduced by the emigration of able-bodied men, labour is rather lower than here stated.

By *piecework* in coaling ships as much as, or even more than, 1\$ can be gained on a busy day and more by night.

Lodging of the labouring classes.—The expense of lodging depends greatly upon the neighbourhood, but, speaking generally, both the richer and poorer classes are content with accommodation far inferior to that common in England, and in very few cases is a thought given to either exterior or interior ornamentation or to the creation of shade of trees. Ventilation or scientific drainage is unknown, and some of the crowded quarters of the towns are dirty to a degree. Thanks, however, to the wonderfully purifying influence of the sun, and to the proximity in all cases of mountain and sea, zymotic diseases are not at all frequent.

In a closely built town, such as Santa Cruz, a room may

cost from 3.75 pesetas to 5.50 pesetas a month, and a small house from 9 pesetas to 15 pesetas, without furniture, water supply, or any conveniences whatever; the cooking being very likely performed on a fire-pan in a dirty little yard, where a few fowls are kept, and the pig, sleeping on the manure heap, acts as scavenger to the house on the principle of nothing being wasted. This is, however, a bad case, and sometimes the poorer classes are particularly clean, but always badly lodged even when regard is had to the climate.

In a country town such as Puerto Orotava the accommodation would be better, and the rent about two-thirds as much, and in a country village a room might cost 2 pesetas and a house 1\$.

Besides houses some of the people live rent free in caves and holes in the rocks, and the poor are always allowed to build themselves shanties in the lava streams or "mal pais" if they find it to their advantage to do so.

In Funchal, Madeira, the rent of a room would be about 1\$ and a small house would rarely be under 3\$. In the country the houses are generally owned by their occupants and caves are not used. The sanitary conditions are no better but the Madeira labourer is naturally much nattier and more cleanly than labourers in the Canaries, who have no idea of anything beyond just living.

Food of the Labouring Classes.—As will be seen from the returns many of the articles consumed by the poor are heavily taxed.

The staple food in the Canaries is not bread but *gofio*, which is grain prepared by a method known to the Guanches, namely, by toasting and grinding it with the addition of a little salt. The chemical result of heat thus applied is said to greatly add to its value as a nutriment. The best *gofio* is made from wheat or maize, but any edible seed can be used in times of scarcity. It is mixed with water and eaten in lumps resembling dough. *Gofio* is eaten in some parts of India.

Bread is more common in the towns, but even there is less eaten than *gofio*. The price of a full lb. is about 0.18 peseta, but in some towns the loaves are called lbs., though really weighing less. The only obligation of the vendor is to register his particular weight at the municipal offices, and stamp it on the loaves, often in an unintelligible manner. When the inspectors of weights and measures are going round it is customary to announce the fact in the newspaper.

Potatoes are again so important an article of food that the population could not be supported without them. The ordinary price in the markets is from 3lbs. to 9lbs. for 0.31 peseta, according to quality and to the harvest, etc. In the country 5 pesetas a sack at their cheapest.

Sweet potatoes (batatas) and *yams (ñames)* are both rather cheaper than potatoes.

Salt fish forms the greater part of the animal food eaten, and costs from 0.94 peseta to 1.25 pesetas the $\frac{1}{4}$ arroba (6 $\frac{1}{4}$ lbs.)

Fresh fish is fairly plentiful and cheap. The best costs from 0.62 peseta to 1.25 pesetas a kilo.; and small fry answering to, but smaller than, our herring, and in size some 8 in. to 10 in. long, sometimes can be bought as low as 18 to 20 a penny. The price depends greatly on the locality.

Goat's milk, cheese, figs, fruit, and sometimes *salt pork* form the remainder of the labourer's diet.

Fresh pork costs about 0.80 peseta a kilo., after paying the fiolato. and salt pork about 1.25 pesetas.

In *Madeira* gofio is unknown and bread is not largely eaten. The chief articles of food are *yams, potatoes, cabbage, pumpkins, lupine, kidney beans, maize porridge, chestnuts* and *fresh fish (tunny, etc.)* The Rev. R. T. Lowe argues that the pumpkin, because of the readiness with which it assimilates itself with fatty substances and because of the large quantity of saccharine and farinaceous material it contains, forms a most nutritious food and that a good deal of the muscular power of the peasantry is due to it.

Drink.—Except during fiestas and holidays the labourer in the country rarely drinks anything but water, and although there is a certain amount of drunkenness at carnival time the people are, on the whole, abstemious.

Resumé.—Most of the population being to a greater or lesser extent owners of land or members of a family to which land belongs, it is usual about harvest time to see the public works, quarries, etc., almost deserted.

Beyond the mutual benefit societies there seem to be no co-operative unions of any kind. One reason for this may be that the ordinary profits of a middleman are reduced to a minimum in a country where the producer and the consumer are so constantly brought face to face.

As far as imported goods are concerned the peasant is quite incapable of organising any society which could compete with or alter the prices of the merchants. In fact, by no class is the advantage of joint-stock co-operation appreciated or acted upon to any extent worth mentioning.

Newspapers being few, and the proportion of the illiterate so large, the doings of the labour unions in Europe are ignored, and in all probability an agitator would meet with but little encouragement from the masses. In spite of the want of sympathy between the upper and lower classes strikes are almost unknown, and, as nearly everyone is poor, and everyone knows pretty well what his neighbour's position is, the

labourer is well aware that it is useless for him to try to squeeze milk out of a stone.

In such small islands there is also a natural barrier to discontent created either by actual family relationship or by family traditions. The upper classes maintain a certain geniality towards the employed, so that it is probable that the labour question will have gone far towards its solution elsewhere before it becomes very prominent here. Besides this the grinding misery of poverty is unknown and the climate not only makes the wants fewer but acts with a sedative effect all round.

The hours of labour are generally from daylight to sunset, with an interval of two hours during the day or two intervals of one hour.

One item of considerable importance in the well being of the poorer classes is the constant stream of small remittances, chiefly in gold, which are sent to their parents and relatives by emigrants, to America, etc. It is obvious that statistics must be unobtainable, but if in the future the amount of specie exports and imports are carefully recorded, a fair estimate can be made. This subject is treated of under "Emigration Returns."

APPROXIMATE Prices of some Commodities in the Public Markets.

| Articles | | Canaries Value | | | Madeira Value | |
|-------------------|---|----------------|---------|------------------------------|---------------|------|
| | | Pesetas | Pesetas | | Reis | Reis |
| Beef | Per 2 lbs. (Sp.) | 0'94 | 1'25 | Per kilo | 220 | 240 |
| Mutton | " " | 0'94 | 1'25 | " | 240 | 260 |
| Veal | " " | 1'25 | ... | " | 260 | 300 |
| Pork | " " | 0'75 | 1'25 | " | 220 | 240 |
| Fresh Fish (best) | " " | 0'50 | 1'25 | Per piece | ... | ... |
| " (common) | " " | 0'15 | 0'62 | tunny, per kilo | 20 | 60 |
| Salt Fish | " $\frac{1}{4}$ arroba (6 $\frac{1}{4}$ lbs.) | 0'94 | 1'25 | Per kilo | 200 | ... |
| Fowls | Each ... | 2'00 | 3'75 | Each | 300 | 500 |
| Potatoes | Per 7 lbs. | 0'31 | 0'75 | 16 kilos | 400 | 750 |
| Rice | " 1 lb. | 0'25 | 0'45 | Per kilo | 70 | 140 |
| Butter | " " | 1'00 | 2'50 | " | 140 | 600 |
| Cheese | " " | 0'47 | 1'25 | " | 600 | 800 |
| Milk | " 1 $\frac{3}{4}$ pints... | 0'25 | 0'47 | Per 1 $\frac{3}{4}$ pints... | 30 | ... |
| Eggs | " 8 | 0'40 | 0'94 | " 8 | 60 | 100 |
| Sugar | " $\frac{1}{4}$ arroba (6 $\frac{1}{4}$ lbs.) | 2'50 | 3'50 | " kilo | 200 | 300 |
| Wheat | " 108 lbs.... | 14'00 | 15'00 | " 11 kilos | 700 | ... |
| Barley | " 80 | 6'50 | 8'00 | " 7 | 400 | ... |
| Maize | " 130 | 11'00 | 14'00 | " 10 | 420 | ... |
| Lupine | " 125 | 6'00 | 7'50 | " 10 | 600 | ... |
| Tea | " 1 lb. | 2'50 | 6'00 | " kilo | 2000 | 3000 |
| Coffee | " 1 | 1'00 | 2'50 | " | 700 | 900 |
| Petroleum | " 65-lb. case... | 13'75 | 18'75 | " 10 gallons | 4200 | 5400 |

Vegetables are cheaper than in England, but have become dearer since the introduction of tomatoes. They are cheapest about January and February.

Country wine in the Canaries costs from 31c. to 62c. the cuartillo ($1\frac{3}{4}$ pints), or from 3c. to 10c. a glass. In Madeira it costs from 15 to 40 reis a glass.

It will be noticed in the case of fish, eggs, milk, etc., that there is a considerable latitude in prices. This is due to the abundance or scarcity of supply, owing to the season of the year, to the weather, to the increase in demand occasioned by visitors, or, in the case of fish, by the ecclesiastical laws.

The writer concludes by tendering his hearty thanks to those gentlemen who have kindly helped him in collecting the various items of information included in the foregoing report, and amongst those more especially Illos. Senhores D. Francisco de Paula Sarrea Prado; D. Luiz. Alex. Ribeiro di Mendoza, Commendador, and D. G. von Hafe, as well as Messrs. Wm. Keene (H.B.M. Consul); John F. Healy (U.S. Consul); Cossart, Gordon & Co.; Wm. Hinton & Sons; da Cunha & Co.; Blandy Bros. & Co.; Mr. Leacock and others of Madeira; Señores D. Ramon de Ascanio and D. Juan Ballester y Marti; Messrs. A. H. Bechervaise; Hamilton & Co.; Mr. Henry Wolfson and others of Teneriffe; Señor D. Francisco Gourié and Messrs. Miller & Co.; Richard Blandy; Harold Withers and others of Grand Canary.

FORMS OF ANIMAL AND VEGETABLE LIFE IN MADEIRA AND THE CANARY ISLANDS.

The following remarks are intended to be incomplete, as the writer has not the scientific knowledge required for properly tabulating the various objects named.

A good general handy volume on the natural history of the Canaries is very much wanted. As regards Madeira all the details that can be given in a small book will be found in "Yate Johnson's Handbook for Madeira." A list of other works dealing with natural history will be found in the bibliography. It is trusted that readers will be kind enough to help the author to fill up his blanks and that, later on, the names of new books, supplying the information now wanting, may be added to the list of works given.

FAUNA.

Birds.—Canon Tristram has very kindly corrected the author's notes with the following result.

Madeira.—70 to 80 different birds are known of which 31 breed in the island; 4 birds are common to Madeira and the Canaries but unknown elsewhere; 2 are found in the above islands and the Azores and 3 are peculiar to Madeira.

Canary Islands.—At least 164 species of birds have been noted in the Archipelago, besides the 6 referred to above as being also found in Madeira; 10 others are, so far as is known, peculiar to some one or more of the Canaries.

The most interesting of these are two very large species of pigeon, very distinct from the peculiar pigeon of Madeira, and a large blue chaffinch peculiar to the neighbourhood of the Peak of Teneriffe. Of the birds found in the Canaries 79 species are known to breed there.

The birds of Fuerteventura and Lanzarote are, for the most part, entirely distinct from those of the other five islands and belong to the desert inhabitants of North Africa. Amongst these are the Houbara bustard, the sandgrouse, and the cream-coloured courser.

Reptiles.—Mr. Yate Johnson says that in Madeira there is only one lizard. The Loggerhead Turtle is found off the coast. Canon Tristram is again kind enough to help and says:—In the Canaries there are a vast number of species of lizard but all belong to the Mediterranean or North African fauna with

the exception of three, one very common throughout the islands, another in Lanzarote and a third only found on a rock off Hierro.

Batrachians.—Two species of frogs have been introduced into both Madeira and the Canaries.

Fishes.—The only fresh water fish in both Madeira and the Canaries is the eel.

Madeira. About 250 different marine fishes have been taken and their species determined. A portion of an illustrated work on the subject was issued by the Rev. R. T. Lowe, as well as several papers by the same author and by Mr. Yate Johnson, both of whom have described many new genera and species.

The marine fishes of the Canaries have not received so much attention and the most complete work on the subject is probably that of Messrs. Webb and Berthelot, 1839.

Insects.—Mr. Yate Johnson classifies 1331 insects found in the Madeiras and states that the list, given below with some very slight alterations, is still very incomplete. Mr. Wollaston in "*Insecta Maderensia*," a most elaborate work, describes 483 species of beetles and has since extended his researches.

Canon Tristram says that in the Canaries there are several species of diurnal lepidoptera, as well as many South European and North African forms and not a few introduced from America. Mr. Arthur H. Bechervaise has kindly given the number of butterflies, moths and beetles according to the latest computation and Sr D. Ramon Gomez the Orthoptera and Dermaptera.

| | | | | | | Species. | |
|---|---|---------------------------------|--|--|--|-----------------|------------------|
| | | | | | | <i>Madeira.</i> | <i>Canaries.</i> |
| Diptera (two winged insects <i>e.g.</i> gnats, house-fly, etc.) | | | | | | 160 | |
| Hymenoptera (ichneumons, gall-flies, wasps, ants, etc.) | | | | | | 217 | |
| Coleoptera (beetles) | | | | | | 695 | 930 |
| Hemiptera | } | Heteroptera (bugs) | | | | 54 | |
| | | Homoptera (aphides etc.) | | | | 14 | |
| Thysanoptera (midges) | | | | | | 6 | |
| Lepidoptera Rhopalocera (butterflies) | | | | | | 11 | 23 |
| do. Heterocera (moths) | | | | | | 101 | 36 |
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(It is believed that there are over forty Miriapoda in the Canaries).

Land and Fresh Water Shells.—The most complete work in this subject is "*Testacea Atlantica*" by Mr. Wollaston, 1878. In it he gives the mollusca of the Madeiras as 158 of

which 6 live in water and 152 on land. Of these 70 are peculiar to Madeira ; about 40 to Porto Santo, and only 3 or 4 common to all the Madeiras.

The writer could not obtain any complete or satisfactory information regarding the Canaries.

Marine Mollusca.—Mr. Yate Johnson, who gives the matter in some detail, says that about 300 or 400 species have been taken in the Madeiras, of which Mr. Robert McAndrew classified some 156 species in 1854.

The Marine Mollusca in the Canaries have been only partially collected. The writer believes that some 150 species have been classified.

Cephalopods (Cuttle Fish).—Several in Madeira and at least as many in the Canaries.

Bryozoa or Polyzoa.—Mr. Yate Johnson states that he possesses over 100 species found in the Madeiras.

Cirrepedia.—In the Madeiras there are over a dozen.

Crustaceans.—Numerous both in the Madeiras and Canaries but the number of species wanting.

Worms.—(Land worms) 4 species are known in the Madeiras and St. D. Ramon Gomez states that there are 5 or more in the Canaries.

(Sea worms).—Dr. Langerhans collected upwards of 240 species in the Madeiras. Species in the Canaries not known.

Echinodermata.—In the Madeiras 10 species of sea-urchins and several star-fish are given by Mr. Yate Johnson. In the Canaries 4 sea-urchins and 5 star-fish by St. D. Ramon Gomez.

Acelaphae.—The Portuguese man of war and the Saltee man are known in both Madeira and the Canaries.

Zoophytes.—Mr. Yate Johnson mentions 30 corals and 10 sea-anemones in the Madeiras.

Foraminifera.—The same writer says that 60 species have been found in his collection made off the Madeiras.

Sponges.—In the Madeiras about 70.

By dredging and wading Mr. Isaac C. Thompson, F.L.S., F.R.M.S., collected in Grand Canary 5 species of Nudibranchs, several axidians, a few species of star-fish, sea-urchins, actiniae, etc. By the tow net in Orotava 65 species of Copepoda (of which 23 are found in British waters). He states that the surface water in Orotava is more prolific than in Grand Canary.

FLORA.

Trees and large shrubs.—In Madeira there are some 80 species of which 11 are peculiar to Madeira and the Canaries ; 2 peculiar to Madeira and the Azores ; 4 to Madeira, the Canaries and the Azores and 6 to Madeira alone.

The author has been told that the number of forest trees in the Canaries is about 42. Unfortunately Webb and Berthelot's work on the Flora of the Canaries, though it reaches the fourth volume in folio, was never completed.

Flowering plants.—Mr. Yate Johnson's list in Madeira includes 363 genera and 717 species of which Monocotyledons 70 genera and 128 species and Dicotyledons 293 genera and 589 species. Some 80—90 are peculiar to Maderia and about 110 to Madeira and other Atlantic Islands.

The number of peculiar plants in the Canaries is much greater than in Madeira.

Ferns.—Madeira, 45 varieties have been classified of which 3 are peculiar to Madeira and 5 to Madeira and other Atlantic Islands (Macaronesian).

In the Canaries D. Ramon Gomez states that there are 62 species of which 5 are peculiar.

Lycopods.—In Madeira 4. In the Canaries 3.

Mosses.—More than 100 mosses and about 50 species of Hepatica have been collected in Madeira by Mr. J. Yate Johnson.

Lichens.—In Madeira about 60 are known.

Fungi.—No collections have been made in any of the Islands.

Marine Algæ.—About 60 species have been collected in the Madeiras and 110 in the Canaries (Dr. Hillebrand.)

It will be evident to all from the foregoing remarks that the author has relied chiefly upon Mr. J. Yate Johnson's most valuable work whose publishers, Messrs. Dulau & Co., have kindly consented to the publication of the above précis. Where additions could be obtained from competent authorities they have been included. If any of his readers find the above remarks of use in facilitating future research the author will have gained his object, but it rests on the goodwill of these readers to supply fresh details. It is again repeated that the pages devoted to Natural History are never intended to be more than a summary and a reference to other and more elaborate works.

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IN ALL SIZES IMPORTANT TO TOURISTS, SPORTSMEN, INVALIDS & SETTLERS

Is the water supply pure ?

MAIGNEN'S PATENT "FILTRE RAPIDE"

is easily renewed or cleansed; aerates water which has been boiled; removes germs of disease, organic matter, and every trace of metallic poison. and is generally acknowledged to be perfect, maintaining in every contest an unbroken record of success.

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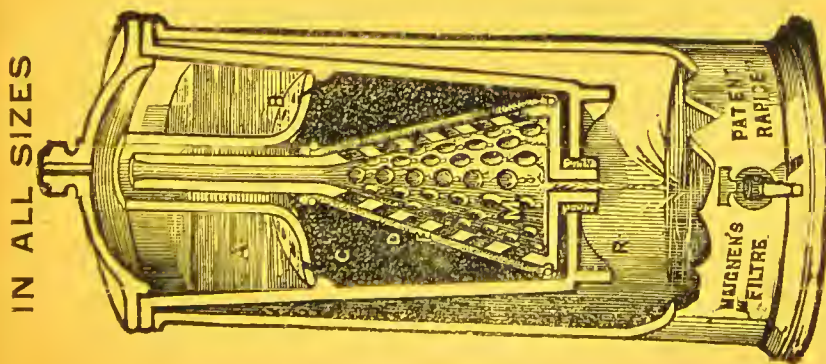
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From the pocket watch filter up to a capacity of 60 gallons per hour. Baskets will be fitted to filters if desired by travellers.

MADEIRA.—Mean Winter Temperature, 61 degrees.
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 Absolute freedom from Dust.

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ESTABLISHED 1850.

By appointment to H.R.H. The Duke of Edinburgh.

SANTA CLARA HOTEL.—“Admirably situated, overlooking Funchal, fine view of the Mountains and Sea.”
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CARMO HOTEL.—In sheltered central position.

IMPERIAL HOTEL.—Fine views of sea.

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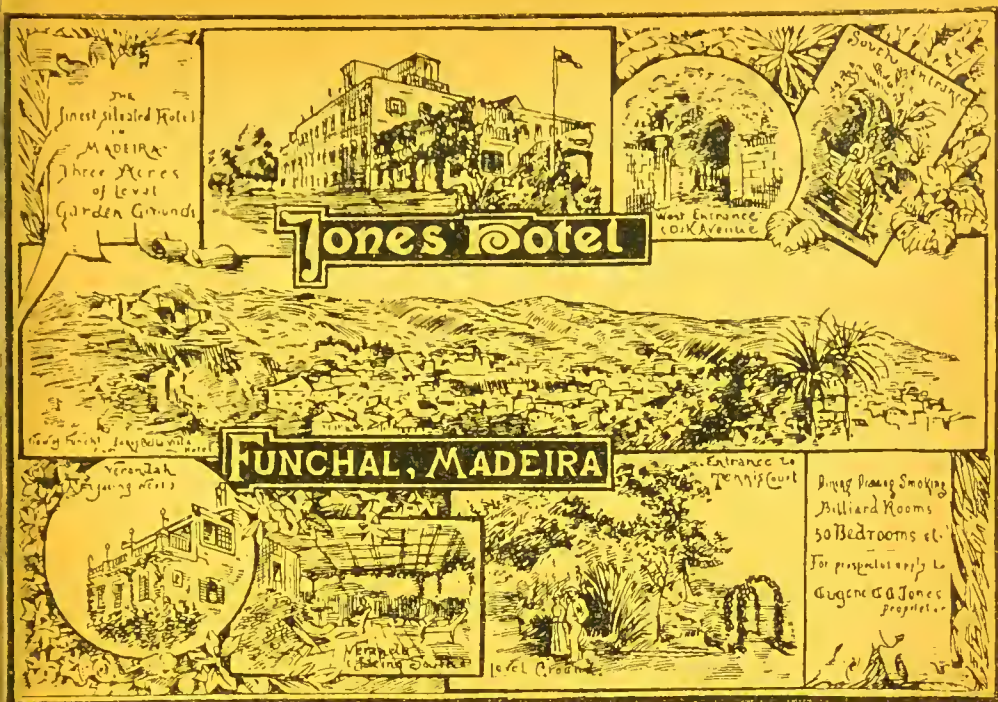
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Pamphlets free. Apply to F. PASSMORE, 124, Cheapside, London, E.C.

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THIS HOTEL HAS BEEN RECENTLY RENOVATED WITH
MODERN IMPROVEMENTS.

*Sanitary arrangements perfect. Standing on high ground in Three
Acres of Gardens. Charming Views all round.*

*Healthiest situation in Funchal. Seven minutes' walk from
English club.*

EVERY ATTENTION PAID TO INVALIDS. LARGE SUITES OF
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Charges Moderate. Special Terms for a Protracted Stay.

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A B C CODE USED. Telegraphic Address:—"SANSPAREIL,
MADEIRA."

*Mr. E. JONES will engage Quintas, Servants, or give any other
information to families, on receipt of telegram or letter*

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“THE VICTORIA.”

THIS Hotel standing in its own grounds, is both beautifully and healthily situated. Although well outside the town, it is easily reached from the beach in about twenty minutes, and commands magnificent views of the bay and of the central group of mountains.

FRESH AIR, BEAUTIFULLY LAID OUT GARDENS, TENNIS COURT, &C., &C.

Large Drawing Rooms, Smoking Rooms, and all Home Comforts.

This Hotel is on the new road, the only level and macadamised road in the Island; and visitors are able to enjoy a pleasant shaded walk of over five miles without making any ascent whatever.

The Sanitary Arrangements (by Jennings) are in advance of those in any Hotel in Madeira.

SPECIAL TARIFF FOR A LENGTHENED STAY.

A B C Code used. Telegraphic Address: ‘Cardwell, Madeira.’

ALL STEAMERS MET. *Particulars of the Proprietress:—*

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HOTEL ROSA (FIRST-CLASS HOTEL),

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Este magnifico Hotel e Restaurante com frente para o grande Jardim Municipal, acha-se fornecido com tudo que se possa imaginar de bom, por preços reduzidos. Neste restaurant encontram-se bebidas de todas as qualidades nacionaes e estrangeiras. Tem magnificos quartos para casados, &c., & tudo isto muitissimo decente. Queiram pois visitar este novo estabelecimento, que ficarão certos da verdade.

Cet Hotel, situé en face du Jardin Municipal, est établi dans une superbe maison très bien aménagée. Les hôtes y trouvent une bonne nourriture, à des prix modérés.

Le Restaurant, au rez-de-chaussé, se trouve très bien fourni, et possède un bon assortiment de vins nationaux et étrangers; on y recoit aussi des commandes pour déjeuners et diners, à des prix conventionnels.

This Hotel is most admirably situated facing the New Public Gardens and the Sea. The position is airy and agreeable, the Gardens being the favourite resort of those living in Funchal.

The Rooms will be found to be large and comfortable, the table liberal and good, and the assortment of wines and spirits first-class. Moderate prices.

Restaurant:—DEJEUNERS, DINERS et SOUPERS de PREMIÈRE CLASSE.

BOARDERS

are taken in by an English family at
29, Rua do Conselheiro, FUNCHAL.

Immediately opposite the West Gate of the New Public Gardens which are overlooked by all the windows in the front of the house.

Those who are seeking a quiet and comfortable home will find all that they desire at the above address. Adjoining the Gardens and commanding uninterrupted views of the harbour and mountains, the situation is one of the airiest, brightest and most cheerful to be found in Funchal. Apply to Mr. Smart at the above address. Visitors will be met on the vessel if desired.

TELEGRAMS—"SMART, FUNCHAL."

Prize
Medal,
Paris
Exhibition,
1878.

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76, RUA D'ALFANDEGA, 77.

By
Appointment
to H.R.H.
the Duke of
Edinburgh.

Large Export of Wicker Work, Embroidery, and all
sorts of Native Industry of Madeira.

English spoken. On parle Français. Hier spricht man Deutsch.

JOHN PAYNE & SON

(Opposite the Custom House). Established 1825.

WINE AND SPIRIT MERCHANTS,

HOUSE & COMMISSION AGENTS

ALL QUALITIES OF MADEIRA IN CASKS AND CASES

LARGE STOCK OF FOREIGN WINES, CLARETS, CHAMPAGNES, WHISKIES,
COGNAC, ETC.

Shipping supplied. Orders promptly forwarded to all parts of the world on receipt of cash or satisfactory references.

Agents for the Royal London and Royal Cork Yacht Clubs

HER MAJESTY'S NAVAL CONTRACTORS

CASA PORTUGUEZA

DE

ALFREDO GUILHERME RODRIGUES,

LARGO DO CHAFARIZ, FUNCHAL, MADEIRA.

WHOLESALE AND RETAIL STORE OF IMPORTED GOODS AND ISLAND
MANUFACTURES

Customers visiting this Establishment will find a great variety to choose from. Orders not approved of will be exchanged or the money returned. On large purchases a discount is given for cash. The motto of this house is "*Punctuality*," "*Civility*," "*Low Prices*."

GENUINE MADEIRA WINE.—A stock of 1,000 pipes of good old wine for sale at £15 and upwards per pipe.

JOSÉ M. RODRIGUES

(Opposite the Post Office)

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FUNCHAL, MADEIRA.

MANUFACTURER AND DEALER IN ALL DESCRIPTIONS OF WICKER-WORK
AND MADEIRA INDUSTRY.

All orders, accompanied by Bank Notes or cash promptly executed. Speciality in Azores lace, drawn linen and embroidery. Also inlaid wood work.

CUNHA & Co.

MADEIRA

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General Merchants & Wholesale Exporters
OF
FRUIT, WINE, OSIERS,
WICKER-WORK, ETC.


VASCO PEREIRA

Pharmaceutico de 7^a classe pela Universidade de Coimbra,

ENGLISH CHEMIST AND DRUGGIST

PHARMACIA CENTRAL

RUA DO BETTENCOURT, 2—10, FUNCHAL

 THE ONLY RESIDENT ENGLISH DISPENSER. 

MR. HENRY G. WILSON

All English and Foreign prescriptions carefully prepared with genuine drugs, and according to their respective Pharmacopœias.

It is respectfully requested that Prescriptions be sent as early in the day as possible, as some medicines require several hours to prepare.

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A large assortment of Patent Medicines and Mineral Waters kept in Stock.

Chemicals for Photography at the most reasonable rates.

HENRY P. MILES

Wine Exporter,



MADEIRA

POSSESSES A VERY LARGE

ASSORTED STOCK OF FINE WINES

From Good Young to Finest Old Reserve, at prices ranging from £20 to £250 per pipe of 92 imperial gallons. *f.o.b.*

These wines are shipped at customers' option in pipes, hogsheads, quartercasks, or octaves.

BOOTS AND SHOES

Visitors to Madeira will find that

the best are to be had from

JOÃO MANUEL BORGES

43—45. Praça da Constituição. 43—45.

(CLOSE TO THE HOSPITAL).

Boots and Shoes of all sorts to measure. English shapes if desired
Only the best materials used.

REPAIRS CHEAPLY & NEATLY EXECUTED.

Canvas and soft leather shoes for those whose feet suffer from the stones.

ENGLISH CHEMIST AND DRUGGIST PHARMACIA LUSO-BRITANNICA

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(LATE RUA DO PINHEIRO),

FUNCHAL, MADEIRA.

This Establishment is conducted by an associate of the Pharmaceutical society of Great Britain, and contains a large and most complete assortment of drugs and all necessary medical appliances supplied from the leading English and Continental manufactories.

The accurate dispensing of medicines will always command the most careful attention, and it is hoped thereby that the confidence both of the Profession and the Public generally which the Pharmacia LUSO-BRITANNICA has so long enjoyed, will be maintained in the future.

All English and other Foreign prescriptions prepared according to their respective Pharmacopœias.

The attention of Foreigners is respectfully invited.

N.B. A great assortment of mineral waters, patent medicines, &c.

BURLINGTON ARCADE,

(Opposite the Custom House),

THE LARGEST BAZAAR OF NATIVE INDUSTRIES IN THIS CITY

FERREIRA & JARDIM

Have always a large and assorted stock of Osier-Work, Chairs, Sofas, &c., also Fancy Baskets, Embroidery, Feather Flowers, Jewellery, &c.

Goods delivered on board ship at a small extra charge.

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BREAD AND BISCUIT BAKER

GROCER AND CONFECTIONER.

FAMILIES SUPPLIED.

BY APPOINTMENT TO H.M. THE EMPRESS OF AUSTRIA.

VICENTE, Photographer,
RUA DA CARREIRA, 41, FUNCHAL.

FIRST STUDIO OPENED IN MADEIRA, A.D. 1848.

All the newest processes and the last improvements in the Photographic Art. Spacious Atelier and Gardens for Groups, Hammocks, &c.

English Chemist and Druggist,
BOTICA DOS DOIS AMIGOS.

Established 1805. Prized in the Paris Exhibition. 1878.
 2 to 8, Rua da Carreira, FUNCHAL.

Prescriptions and Family Recipes will be dispensed by a qualified Chemist and Assistants under the personal superintendence of the Proprietors, who respectfully solicit the honour of your patronage and recommendation.

Foreign prescriptions CAREFULLY DISPENSED according to their respective **PHARMACOPŒIAS.**

Orders forwarded by post and Shipping orders receive immediate attention.

N.B.—The **PUREST CHEMICALS** and **FINEST DRUGS** are alone used. **NIGHT ATTENDANCE.**

MERCEARIA CENTRAL
55, Praça da Constituição, 57,
*** LARGO DA SÉ. ***

This Establishment has a large and most varied assortment of **PROVISIONS**, as well as of **WINES, SPIRITS, BEERS, &c., &c.**

The best guarantee of the moderate prices charged and good quality offered by the Proprietors is the great number of customers, both native and foreign, who patronize their house.

JOÃO. FERNANDEZ, MENDES,
38, Praça da Constituição, LARGO DA SÉ.

TOBACCO STORE.

A large assortment of the best brands imported.

ALL ARTICLES OF NATIVE INDUSTRY.

A lot of very Old and Choice Madeira Wine.

JOÃO. ALEXANDRE, P. D'ABREU "DILLEY,"

(facing the North Side of the Cathedral).

Stationer, Bookseller, Perfumer, Tog and Fancy Dealer.

FANS, SUNSHADES. &c.

BRUSHES, COMBS, AND EVERY TOILET REQUISITE.

Photographic Views of the Island.

Winsor and Newton's Moist and Oil Colours and every Material
for Drawing.

Printing in all its Branches. Madeira Embroidery Merchant.

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NATIONAL AND FOREIGN DRY GOODS ESTABLISHMENT

Rua dos Capellistas, Funchal.

MANOEL ANASTACIO D'ORNELLAS, BOOT AND SHOE MANUFACTURER.

ESTABLISHED 1877.

A large assortment of Boots & Shoes
for local use & export always on hand

Honorable Mention, Portuguese Industrial
Exhibition, 1888.

Prize Medal, Paris Exhibition, 1889.



8 TO 12 RUA DA SÉ, FUNCHAL, MADEIRA

NOVA MINERVA,

(Facing the Custom House), FUNCHAL, MADEIRA.

In addition to their extensive stock constantly receive the newest articles from London and
Paris, namely:

Christmas and New Year Cards and all kinds of STATIONERY; Foreign Note,
Cream and Letter Paper and Envelopes; copy and account books; Inks; Pins;
Inkstands; all sorts of TOILET ARTICLES, brushes, sponges, screens, gilt
frames, Views of Madeira and many other articles too numerous to mention.

TOYS of all descriptions, porcelain, paste and other DOLLS, &c.

PERFUMERY AND PERFUMED SOAP.

SADDLERY, whips, bits, spurs, girths, curry-combs, &c. CROCKERY of
all descriptions.

AN INSPECTION IS RESPECTFULLY INVITED.



SABINO



Established 1856.

Sole qualified Assayer of Gold and Precious Metals in Madeira.

All articles sold, are stamped according to law and are guaranteed to be of the quality stated.

PRECIOUS STONES. A large assortment of old and modern Jewellery both in Gold and Silver.

REPAIRS EXECUTED.

LUIZ A. D'ARAUJO

Silk Mercers and General Drapers,

LONDON HOUSE, 34 Rua da Sé 36. 18 Travessa dos Capellistas 20

Constant Shipments of the latest Novelties from England and France.

ALSO

**BRITISH BREWERY,
LEMONADE & SODA WATER MANUFACTURER,
FUNCHAL, MADEIRA**

HORSES! HORSES!

A. GONSALVES,

16 - RUA DA QUEIMADA DE CIMA - 16

Founded in 1863.

There are to be found in this stable the best Horses on hire, to which the preference has always been given by numerous families of foreigners and residents.

THE SAILORS' REST

(Facing the West Gate of the Public Gardens),

31 RUA DO CONSELHEIRO.

(In connection with Miss Weston's Rests at Devonport, Portsmouth, &c.)

This establishment, which is supported entirely by the voluntary contributions of visitors and others, provides food and unalcoholic drinks to sailors of all nations, as well as a limited number of beds to those stopping on shore. A visit is earnestly solicited.

Adjoining the Sailors' Rest is the combined Dépôt of the British and Foreign Bible Society and the Religious Tract Society.

Superintendent, Mr. W. G. SMART.

JOSE DE SOUZA,

Livery Stables,

12, RUA DO BISPO, 12.

*Saddle Horses and Bullock Cars on Hire per Hour, Day, Month
-:- or by the Journey. -:-*

HORSES, BULLOCK CARS, BASKET CARS, CARRIAGE.

Orders attended to any hour of the Day and Night.

JOSE DA SILVA, JUNIOR,

Rua do Aljube, Nos. 14, 16, and 18,

FUNCHAL.

A large assortment of Gloves, Drapery, Hosiery, &c., of the best quality and at moderate prices. Stock specially adapted to the wants of visitors.

MANCHESTER HOUSE.

G. L. DE SOUZA,

THE CHEAPEST HOSIER AND DRAPER,

FUNCHAL, MADEIRA.

— FOR —

Lessons in Portuguese, English and German

H. Hempel,

Quinta Jasmineira,

Funchal.

DIARIO DE NOTICIAS

ESTABLISHED IN 1874.

.....

This newspaper has the largest circulation in Madeira, and in consequence is the best medium for advertisers.

It has subscribers in England, France, Brazil, Africa, Demarara, Honolulu and all over Portugal, with correspondents in most of these places.

DIRECTOR AND PROPRIETOR:

Tristao V. T. Bettencourt e Camara.

Continued from page I.

causes; and so of consistories ecclesiastic; the churches and monasteries, with the monuments that are therein extant; the walls and fortifications of cities and towns; and so the havens and harbours, antiquities and ruins, libraries, colleges, disputations and lectures when any are; shipping and navies; houses and gardens of state and pleasure near great cities; armouries, arsenals, magazines, exchanges, burses, warehouses, exercises of horsemanship, fencing, training of soldiers, and the like; comedies, such whereunto the better

Continued to next page.

FOR

PICTURE BLOCKS, LITHOGRAPHED CARDS

Headed Letter Paper, Memoranda, or Bills, &c.,

SEE PAGE 50.

THE PALMA HOTEL

SANTA CRUZ DE LA PALMA.

This well-known Hotel, now under English management, is conveniently situated, and has been specially arranged for the accommodation of English and other visitors wishing to stay in the island, which is generally admitted to be the most picturesque of the Canary Archipelago.

The rooms are spacious and airy and every effort is made to secure the comfort of visitors.

Large Drawing, Dining and Billiard rooms.

In connection with the above, The ENGLISH HOTEL at EL PASO, centrally situated for those wishing to visit the famous Crater (said to be the largest in the world) either by the Cumbrecita or by the Barranco de las Angustias.

The Island may be reached directly by Messrs. Forwood Bros. and Co.'s boats from London or Madeira, or by the Interinsular Mail Service of Steamers, sailing weekly from Grand Canary and Teneriffe.

For Terms, &c., apply by letter or telegram.

JUAN CABRERA MARTIN,
SANTIAGO 2,
STA. CRUZ DE LA PALMA.
BANKERS and GENERAL MERCHANTS.

Large exporters of Preserved Fruits, and of all the Products
 of the Island.

*Agents for the Interinsular Service of Mail Steamers and Sub-Agent
 for the Compañia Trasatlantica (antes A Lopez & Cia) de Barcelona.*

Continued from page 14.

sort of persons do resort ; treasures of jewels and robes ; cabinets and rarities ; and, to conclude, whatsoever is memorable in the places where they go."

Continued to page 38.

FOR
PHOTOGRAVURE IN ONE OR SEVERAL COLORS,
SEE PAGE 50.

CAMACHO'S HOTEL.

SANTA CRUZ
TENERIFE.



A. SAMLER BROWN TAUNTON.



CAMACHO'S HOTEL, Santa Cruz, Tenerife

THIS is the most central and best situated Hotel in Santa Cruz, containing forty large, well-ventilated, airy bedrooms, sitting room, billiard room, smoking room, &c., &c. Bath room on each landing.

The Sanitary Arrangements are perfect, their construction having been superintended and examined by Dr. PAGET THURSTAN, Author of "Southborough, its Chalybeate Springs," &c.

The climate of Santa Cruz from November to April is by far the best in the Islands. The air is clear and dry; the temperature equable with constant sunshine. During the winter months the town is the rendez-vous of the Nobility and Gentry, and Visitors will find it a most agreeable resort.

All steamers are met by a representative of the Hotel, and passengers' luggage, &c. taken in charge and landed, thus saving much trouble and inconvenience.

Terms: Rooms from 8s. to 12s. per day, or £2 10s. to £3 15s. per week.

Special arrangements made for Families or Persons staying for a prolonged period.

LOUIS G. CAMACHO, PROPRIETOR.

THE INTERNATIONAL HOTEL

Santa Cruz, TENERIFFE.

BEAUTIFULLY situated, facing the Public Square and the Mole, and commanding splendid views of the Harbour, and of the coast from Güimar to San Andres.

The position and frontage of the Hotel being unequalled, and the absence of surrounding houses ensuring the maximum amount of fresh air obtainable, those who stay any time in Santa Cruz always choose the "International" as their residence.

Visitors suffering from Asthma, Rheumatism, Rheumatic Gout, etc., invariably prefer the dry and bracing winter climate of Santa Cruz to that of any other resort in the Archipelago.

Large and airy Bed, Drawing, Dining and Billiard Rooms (full-sized English Table).

LIBERAL TABLE. -:- GOOD WINES, &c.

The only Hotel on the Island where London Daily Papers are received by every Mail.

TERMS: 10s. PER DAY. NO EXTRAS.

Reduction made for a lengthened stay.

ALL BOATS MET BY THE PROPRIETOR, HENRY JAMES.

Telegraphic Address:—"INTERNATIONAL, TENERIFFE."

HAMILTON & CO.,

ESTABLISHED 1799.

STEAMSHIP, TELEGRAPH, AND FORWARDING AGENTS.

Correspondents for all the principal British and Foreign Banks.

Agents for Lloyds; New York Underwriters; The Assicurazioni Generali, Trieste; La Compagnia Mutua Camogliense, Camogli; The Rhenania Versicherungs A.G. Köln; The Italia Societa d'Assicurazioni Marittime Fluviali e Terrestri, Genova.

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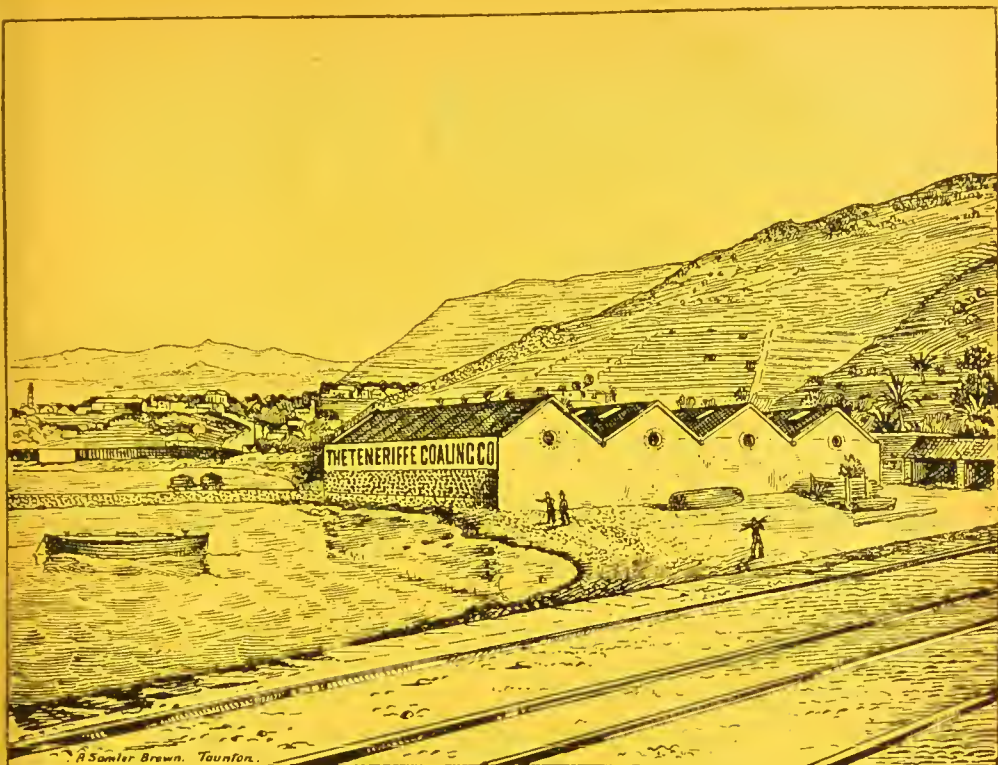
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4 Gold Medals, Bordeaux 1882, Barcelona 1888, Paris 1878 & 1889,
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PRICE LIST FREE ON APPLICATION.

WINES sent in WOOD or BOTTLE to all parts of the world. All shipment bears the mark "*Hardisson Frères*" on all the corks and on the casks.

Wines specially selected for every taste and every climate and at prices to suit everyone, from 168 francs to 448 francs the quarter cask of 112 litres, and from 25 francs to 48 francs the dozen bottles in case. Barrels from 16 litres (2½ gallons) up to any size.

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Purveyor to the Royal Household of Her Majesty the Queen, Isabel II. and licensed to use the Royal Arms.

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SPECIALITY FOR CIGARS

made from legitimate Havana tobacco. If desired, Cigars can be made to order and to the taste of the purchaser from Havana blended with Pennsylvania leaf.

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MANUFACTURER OF TOBACCOS OF ALL KINDS

With Royal and exclusive privilege in Spain, England and Belgium.

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| PRICE LIST. | | | PRICE PER 1000 | |
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| | | | £ | Francs. |
| Republicanos grandes | In bundles of 10 | 6 | 150 | |
| Id. medianos | 10 | 4 | 100 | |
| Id. pequeños | 10 | 3 | 75 | |
| Regalia Imperial | In boxes of 25 | 12 | 300 | |
| Regalias Flor | 25 | 10 | 250 | |
| Flor de Veguero | 50 | 8 | 200 | |
| Regalia Victoria | 50 | 8 | 200 | |
| Reina Victoria | 50 | 6 | 150 | |
| Brevas Imperiales | 100 | 8 | 200 | |
| Regalia Británica | 50 | 6 | 150 | |
| Regalia Emperatriz | 50 | 6 | 150 | |
| Elegantes | 50 | 6 | 150 | |
| Brevas Conservas | 100 | 6 | 150 | |
| Londres Fino | 100 | 5 | 125 | |
| Bouquet | 50 | 5 | 125 | |
| Media Regalias | 50 | 5 | 125 | |
| Conchas. Flor fina | 50 | 5 | 125 | |
| Id. | 100 | 4 | 100 | |
| Vegueros republicanos | 100 | 5 | 125 | |
| Panetelas | 100 | 4 | 100 | |
| Vainillas | 100 | 5 | 125 | |
| Brevitas | 100 | 4 | 100 | |
| Princesas | 50 | 4 | 100 | |
| Príncipes | 100 | 4 | 100 | |
| Infantes | 100 | 3 | 75 | |
| Operas | 50 | 3 | 75 | |
| Various other classes | 100 | 2 | 50 | |

SPECIAL NOTICE IS CALLED TO THE FOLLOWING :

All orders received for 10,000 Cigars up to 20,000 a discount of 5% is made, and for all those above 20,000 a discount of 10 % is allowed.

Cigars in any speciality can be made, to suit the convenience of the Purchaser.

Cigars are packed in boxes of 100 or of 50, but may be done in smaller boxes of 25 at customer's desire, difference in price of boxes being very insignificant.

The usual way of packing the special Cigars, called Republicanos Federales, is in bundles of 10, but bundles can also be packed in boxes, containing 5 bundles of 10 Cigars each, or 10 bundles, at purchaser's wish.

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Wine Merchants,

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Stores. Calle de San Francisco, 69, 70 & 72



EXPORTERS OF WINE SINCE 1834.

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Nine Medals in Gold, Silver and Bronze,
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**IN CASK OR BOTTLE FOR EXPORT OR HOME
CONSUMPTION.**

Orders delivered free on board at Santa Cruz
for all parts of the world against cash or
satisfactory reference.

CATALOGUES free on APPLICATION.

ASK FOR SAMPLES.

LA VERDAD,

Fabrica de Tabacos de "Viuda e hijos de Lopez,"

Under the management of GUMPERSINDO ZAMORANO.

69, CASTILLO 69, & PLAZA DE LA CONSTITUCION

(Next door to the International Hotel.)

The Firm manufactures as Specialities the following brands—Regalia Victoria,—Flor del Veguero,—La Crema,—Bouquet,—Regalia de Concha—Conchas Infantes,—Republicanos de Ia, &c., &c.

Depôts in South Africa, London, Australia, and New Zealand.

Samples can be obtained at the offices of all the Shipping Agents.

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At the Top of the Plaza de la Constitucion.

SANTA CRUZ.

THE BEST BAR AND LUNCHEON ROOM IN THE TOWN.

The choicest selection of Beers and Ales (Lager, Bass, Pilsener, &c.) Spirits and Liqueurs of the first quality. Carefully selected Foreign and Native Wines. Ices, Sherbets, &c.

Havana Cigars of the finest Brands.

THE ONLY DEPOT OF "PARTAGAS" IN

SANTA CRUZ.

MELACHRINO AND CUBAN CIGARETTES.

LA MATILDITA

At the Corner House of the Plaza de la Constitucion and the Calle Cruz Verde, also at 21, S. José.

FABRICA DE CIGARROS.

Regalia Comme il Faut, Regalia Victoria, Bouquets, Republicanos Federales, Rothschilds, &c., with Speciality in Predilectos de M. Zamorano. Cigars from 2s. to 24s. a hundred. The largest stock of well-matured native and Havana Cigars in the island.

Demand the signature of the manufacturer, "M. Zamorano," which guarantees against all falsifications.

Orders sent to all parts of the world and delivered free on board against cash or satisfactory reference.

LUIS ZAMORANO Y VILLAR, FABRICANTE DE TABACOS DE TODAS CLASES, Santa Cruz de Tenerife.

Deposito, Plaza de la Constitucion, 24. Fabrica and Direccion 13, Marina.

All Cigars are made of selected leaves and filled with Havanna Tobacco. Speciality in Republicanos Federales with mark "La Gaditana", in packets of ten, from £2 15s. to £6 the thousand. Cigars in boxes of all classes from £2 to £12 the thousand.

Note that all boxes carry the trade mark "El Desengañó."

Orders accompanied by cash sent at once to all parts of the world.

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Cigars manufactured of tobaccos from the best plantations known. Rewarded with silver medals in the "Exposicion Maritima Regional de Cadiz" of 1887; in "Exp. Universal de Barcelona" of 1888 and in the "Exp. de Amigos del Pais de Sta Cruz de Tenerife" with permission to use the arms of the last named Society.

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Silk, Hard and Soft Felts of all colours, Wideawakes, Helmets, Travelling Caps, Straws, Panamas, &c., &c., from Christy's and all the best English, French, and German Houses.

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Those who wish to build or furnish a house should buy all they want in this establishment, where they will find everything from a nail to a chicken fence, from a lamp to an enamelled saucepan, or from a flat iron to a sausage machine. A carefully selected assortment of tools by the best makers.

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Awards of Merit & Gold Medals &c. in Barcelona, Hamburg, Santa Cruz de Tenerife, Orotava, &c.

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All the above articles are warranted to be of the best manufacture and are sold at prices considerably lower than those of any other house in the Islands.

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BARBER & HAIR CUTTER.

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Journal of General News, Notices and Advertisements. The largest circulation in the Canary Islands, and consequently the best medium for advertisers.

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Mineral Waters of all sorts. The purest water only used, viz.: in Santa Cruz that from the "Aguirre Springs" (filtered by the Hermann Lachapelle process) and in Orotava that from the "Martianez Fountain."

In all Hotels insist on being served with "Gutierrez" Mineral Waters which are guaranteed to be of uniform quality and flavoured by the best English essences only.

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Open from the 1st of November till the 1st of June.

"The *Buen Retiro* is prettily situated at an elevation of 1200 feet above the sea. It has a very lovely shady garden in which mangoes, custard-apples, oranges, pomegranates, bananas, citrons and apples flourish as they do nowhere on the Northern side. *Güimar* is undoubtedly the fruit garden of Teneriffe. The water which supplies the town is brought from the charming Ravine *de las Aguas* and is irreproachable." (A. J. Wharry, M.D.)

"Humboldt affirmed that the *Vale of Orotava* is the most beautiful in the world. To my mind *Güimar* is more beautiful than *Orotava*, although it lacks the Peak itself as an element in its picture. But Humboldt did not see *Güimar*." (Charles Edwardes, *Rides and Studies in the Canary Isles*).

"Nothing more exquisitely beautiful than the Ravine *del Rio*, near *Güimar*, can be imagined. Every step reveals new visions of loveliness as the winding path leads onwards and upwards through those sylvan glades." (C. Jeffery.)

"*Orotava* lies to the windward, on the shady, *Güimar* to the leeward, on the sunny slope of the main central *cordillera*."

(Benjamin A. Renshaw, M.A.)

"The driest, sunniest and best climate in the *Canary Islands* is undoubtedly that of *Güimar*: For the treatment of chest disease it is unique." (A. J. Wharry, M.D.)

"*Güimar*, a perfect paradise of rest. On all the earth there is perhaps no better climate." (J. H. T. Ellerbeck.)

METEOROLOGICAL RESULTS.

| <i>Winter (1889—90)</i> | <i>Güimar.</i> | <i>Port Orotava.</i> |
|---|----------------|----------------------|
| Altitude of Observatories above sea-level | 1200 ft. | 346 ft. |
| Mean Max. day temp. | 65° 1° F | 63° 0° F |
| „ Min. night „ | 52° 5° F | 52° 4° F |
| „ Humidity 9 a.m. | 61·3 | 76·0 |
| „ „ 9 p.m. | 61·6 | 80·7 |
| Rainy days | 3 | 30 |
| Rainfall | 1·097 in. | 6·394 in. |
| Mean Bright Sunshine | 6 hrs. 15 m. | 4 hrs. 25 m |

Descriptive pamphlets sent free by mail on application to the Manager, or to Messrs. Ellerbeck Bros., 54 Bold Street, Liverpool.

THE AGUERE, LA LAGUNA, TENERIFFE.

~~~~~ OPEN ALL THE YEAR ROUND.

"There is no display at the *Hotel Aguerre* : it is simple but in every way delightful." (A. J. WHARRY, M.D.)

"*Laguna*—within an hour's drive of *Santa Cruz*—is the only established *mountain resort* in the *Canaries*. Its winter climate is superior in every way to that of the shores of the Mediterranean, and is the most suitable for certain forms and stages of phthisis."

(A. J. WHARRY, M.D.)

"Consumptives, arriving in the autumn, should not think of going straight to *Orotava* or *Las Palmas*, but should remain at *Laguna* till the beginning of December, in order to escape the enervating and laxative Indian Summer which prevails from August to December in the low-lying parts of the Islands."

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"The observations taken last winter (1889-90) by Mr. W. L. Boreham and the Government Meteorologist show that the rainfall at *Laguna* was somewhat less than at *Port Orotava*, while the number of rainy days at both stations was exactly the same."

(BERNARD ROWE.)

"The mean temperature (56.5°F.) of the three *winter* months of *Laguna* is only two degrees lower than that (58.2 °F.) of the three *summer* months in London."

(BERNARD ROWE.)

"The death-rate from phthisis per thousand inhabitants, for a period extending over six years, was 2.61 at *Santa Cruz*, 1.81 at *Port Orotava*, and only 0.65 at *Laguna*."

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"I consider *Laguna*, which at first seemed to us so fearfully dismal, to be simply the gem of the Island of Tenerife."

(W. C. CHAPMAN, M.D.)

"The scenery between *La Laguna* and *Taganana* is beyond description."

(A. SAMLER BROWN.)

"The forest *de la Mina* near *Laguna* surpasses in beauty the most beautiful forests of the Alps."

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"Some future artist might well take this glorious view from the *Cruz de Afur*, near *Laguna* as an inspiration for another picture of the plains of heaven."

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"I confess my impotence to describe this rugged landscape, these ravines that surpass in awful sublimity the most incredible creations of a frenzied brain : truly a nightmare of nature in a state of delirium. This excursion from *Laguna* to the mountains of *Anaga* will ever be regarded by me as one of my most delightful souvenirs of travel."

(JULES LECLERCQ.)

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Laguna is the great summer and autumn resort and the centre for making the loveliest excursions in Teneriffe.

Visitors will find the above Hotel the most comfortable in the Island. It stands in its own grounds of about 2½ acres, overlooking the celebrated Mercedes Forest and surrounding Mountains.

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AND Finca Rincon, La Laguna.

THE ONLY ENGLISH LIVERY AND BAIT STABLES IN TENERIFFE.

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Makes up prescriptions with the greatest care.

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THE TAORO COMPANY, LIMITED, have much pleasure in announcing that the above building is now finished and furnished throughout, so that all guests are housed under the same roof and are able to avail themselves of the magnificent series of apartments and the many conveniences which the establishment offers them, and to enjoy the fresh air and beautiful scenery which its position commands.

Lawn Tennis, Billiards, Riding and Driving, "Sortija" extensive Gardens and Grounds. Pure Water, Dry and Bracing Air, finest Climate in the World. Absolutely no Winter. No charges for Billiards, &c.

The Hotel is close to the Church, where there is a Resident Chaplain. There are two English Physicians in the town, one being attached to the Hotel.

The Sanitary arrangements were carried out by certificated English plumbers, under the supervision of a trained qualified English Physician.

For terms and particulars address: The Manager, Taoro Hotel Co., Port Orotava, Teneriffe, or the Company's Agents: Messrs. Sinclair, Hamilton & Co., 17, St. Helens Place, London, E.C.

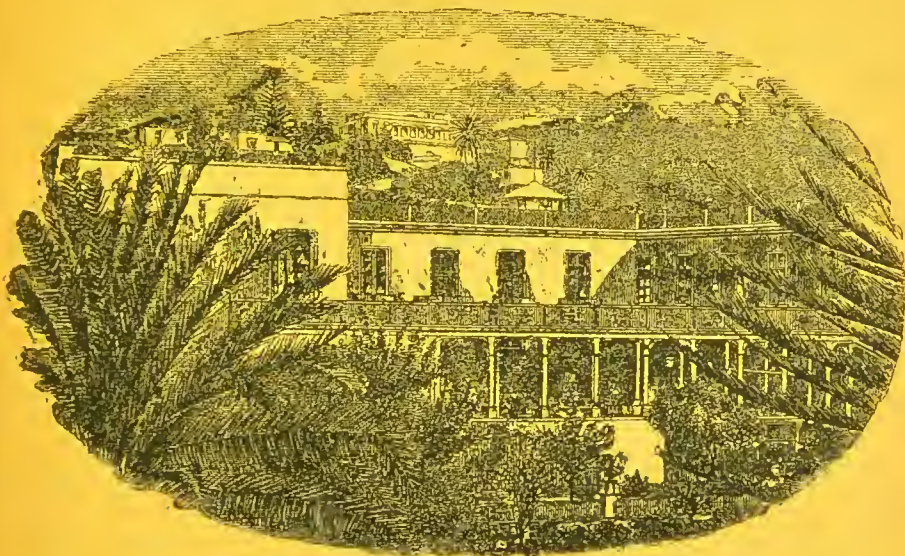
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FINEST WINTER CLIMATE in the WORLD.



THIS first class favourite Hotel is situated just outside the town, commands magnificent views of the sea and coast and is surrounded by one of the loveliest gardens in Teneriffe. The shady walks and Verandahs afford a most delightful lounge for visitors at all hours.

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The water used is from the MartianeZ Springs.

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TENNIS COURT.**

Reduction on the ordinary Tariff for a lengthened stay.

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OVER 1,000 FEET ABOVE THE SEA.

Magnificent Situation. Perpetual Spring.

Exquisite Views of the "Peak," Mountains, Valley, and Sea

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THE only English Hotel in the Villa, peculiarly well adapted for those who, being Invalids or otherwise, wish to reside in a cooler and more bracing climate than that of the lower part of the valley, and close to all the gardens mentioned in the guide books.

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LARGE AIRY BEDROOMS, ALL COMMANDING FINE VIEWS.

DRAWING, SMOKING ROOMS, &c.

Kitchens entirely separated from the rest of the house.

PLENTIFUL SUPPLY OF EXCELLENT WATER.

INCLUSIVE TERMS, 8/- per day; after the first week, 7/- per day; after the first month, 6/- per day.

Excellent Carriages belonging to the Hotel at the service of Travellers.

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THIS well-known old family mansion, situated in Port Orotava, the most healthy part of the Island, which as an Hotel has been a brilliant success, is now re-opened under thoroughly new and satisfactory English management.

SALUBRIOUS & CHARMING GALLERIES.

ELEGANT & SPACIOUS SALOON, REPLETE WITH EVERY COMFORT

LARGE SUNNY GARDENS AND TERRACES.

SPLENDID VIEWS OF THE ENRAPTURING PEAK.

NE PLUS ULTRA CUISINE. WINES A LA CARTE

TERMS FROM 8/- TO 12/-

ARRANGEMENTS FOR A PROLONGED STAY.

Telegraphic Address—"LUNA, PUERTO CRUZ,

P.S.—Invalids, in order to place their improvement beyond hazard in Teneriffe, should not leave Orotava before the 25th of May.

THE BUENAVISTA HOTEL

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(Former Dependence of the Grand Hotel.)

Situated immediately at the end of the CARRETERA so that carriages can drive right up to the door.

This comfortable house has been entirely renovated and fitted with the very latest sanitary improvements.

Visitors will find that both as regards position & general convenience it is all that they can desire

The comfort of Guests receives the personal attention of the Proprietor.

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BILLIARDS FREE OF CHARGE.

Terms on application or a reduction made on a lengthened stay.

FONDA MARINA,

Puerto de la Orotava,

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AGENT FOR ENGLISH AND SCOTCH BANKS.

CHEQUES, CIRCULAR NOTES, &c., CASHED.

LARGE STOCKS OF DRAPERY, HOSIERY, WOOLLEN, SILK AND LINEN GOODS

Ironmongery, Provisions, Furniture, and Saddlery.

FOREIGN WINES, SPIRITS, AND BEERS.

NATIVE WINES FOR SALE AND EXPORT. FRUITS, &c., EXPORTED.

THE FINEST STORES in the CANARIES.

DOMINGO · GONZALEZ

CALLE ZAMORA, No. 2.

PTO. OROTAVA, TENERIFE,

Begs to inform his Customers that he receives by each Steamer direct from London supplies of CROSSE & BLACKWELL'S Provisions.

NATIVE & FOREIGN WINES OF THE BEST QUALITY

BEERS, SPIRITS, AND LIQUEURS.

Havana and Native Cigars and English Tobacco.

Houses and Hotels supplied daily by Contract, as from the Market.

RAMON GOMEZ,

22, SANTO DOMINGO, 22.

Family and Dispensing Chemist.

(All Drugs and Chemicals are supplied by Messrs. ALLEN & HANBURY, London.)

Also a large assortment of Articles of Toilet

INTERNATIONAL DISPENSARY.

A large collection of the Fauna and Flora from all parts of the seven islands. Geological specimens. Ethnographical and Anthropological objects discovered in the Guanche sepulchres on view and for sale.

LIVING NATIVE BIRDS ALWAYS IN STOCK. ENGLISH SPOKEN.

EMILE SCHOENAUER

"CASA DEL SUIZO,"

CALLE SAN JUAN.

MILLINERY.

Ladies' Hats, Bonnets, Artificial Flowers, &c. Velvets, Silks, Ribbons, Tulle, &c. Speciality in Laces and Native Embroidery.

In the same Establishment all sorts of Seeds and Tropical Plants are supplied according to order by German Wildpret, Superintendent of the Botanical Gardens.

NICOLAS ACOSTA,

2, Plaza de San Francisco, PUERTO, OROTAVA.

BOOT AND SHOE MAKER.

Hand-made Boots and Shoes of all Sorts made to measure and with the Greatest Despatch.

COMFORT AND GOOD QUALITY GUARANTEED.

A LARGE STOCK OF FOREIGN AND NATIVE LEATHER TO CHOICE.

PEAK OF TENERIFFE

AT ALTA VISTA, 10,700 FEET.

TRAVELLERS' SHELTER. WITH STABLE.

BEDS, and every comfort.

KEYS KEPT AT CALLE SAN FRANCISCO, 4, VILLA OROTAVA

Charge per head, 5/- (Guides and Attendants free.)

AGUSTIN ESTRADA,

6, CALLE DE LA IGLESIA, 6.

PHARMACEUTICAL CHEMIST

Prescriptions carefully made up.

English Drugs, Patent Medicines, Sponges, Soaps, Mineral Waters,
&c.

Continued from page 15.

In Symonds' description of the scenery of the Mediterranean the following passage occurs, equally applicable to the scenery of Madeira or of the Canary Islands. "Then, too, it is a landscape in which sea and country are never sundered. The higher we climb upon the mountain side the more marvellous is the beauty of the sea, which seems to rise as we ascend, and stretch into the sky. Sometimes a little flake of blue is framed by olive boughs, sometimes a turning in the road reveals the whole broad azure calm below. Or, after toiling up a steep ascent, we fall under the undergrowth of juniper, and, lo! a double sea, this way and that, divided by the sharp spine of the jutting hill, jewelled with villages along its shore, and smiling with fair islands and silver sails."

Continued on page 48.

= Photographs =

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LANDSCAPES, BUILDINGS, GROUPS, CHARACTERISTIC FLORA,

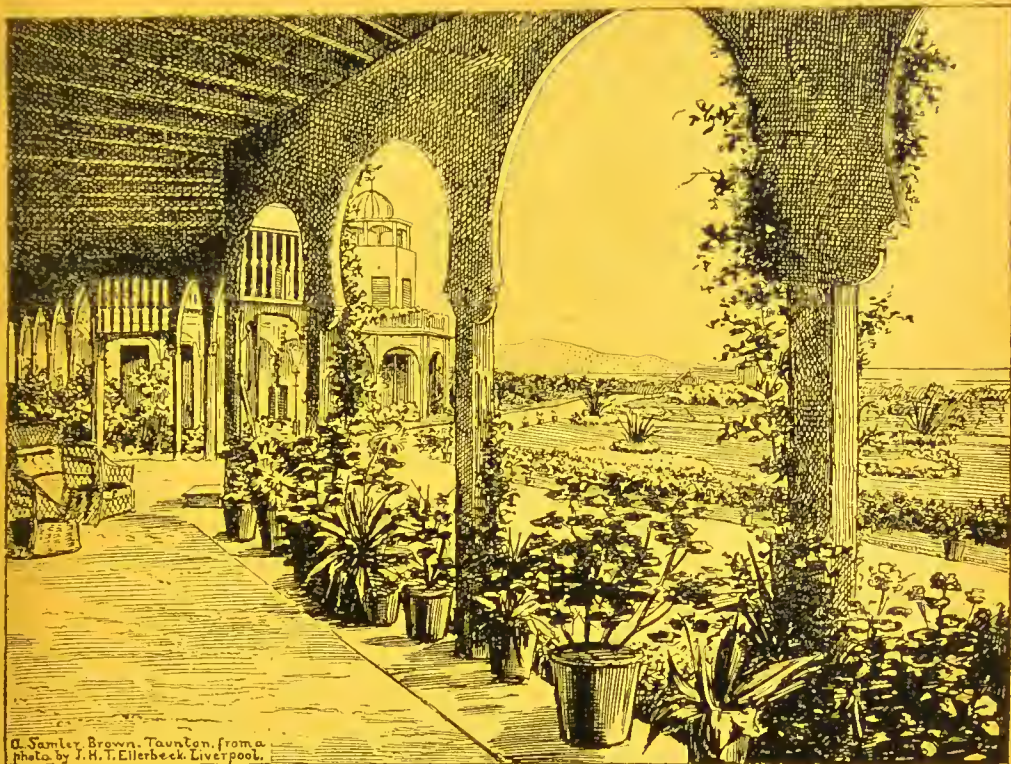
GEOLOGICAL FORMATIONS, VOLCANIC ECCENTRICITIES,

Taken in Teneriffe, Grand Canary, La Palma, and other Islands.

THE BEST & CHEAPEST WILL BE FOUND AT

DELGADO YUMAR'S, SANTA CRUZ (Teneriffe)

(Opposite Camacho's Hotel.)



Las Palmas, Grand Canary.

SANTA CATALINA HOTEL,

Replete with every modern improvement.

Facing the sea, and surrounded by its own beautiful gardens of about 20 acres.

IS OPEN FOR THE SEASON UNDER THE MANAGEMENT OF MR. EDEL

(in Summer, Manager, Hôtel Baur-au-Lac, Zurich).

SANITARY ARRANGEMENTS PERFECT.

Private Sitting Rooms and complete Suites of Apartments.

Resident English Physician & Nurse. Near English Church.

GOLF LINKS AND TENNIS.

Reduced terms during the Summer months.

Every information may be obtained and plans seen at the Offices of the

CANARY ISLANDS COMPANY, Limited,

1, LAURENCE POUNTNEY-HILL, LONDON, E.C.

Telegraphic Addresses "SANSOFE, LONDON." "SANSOFE, LAS PALMAS."

QUINEY'S ENGLISH HOTEL

Plaza de San Bernardo,

LAS PALMAS, GRAND CANARY

The oldest established English Hotel in the Canary Islands.

SANITARY ARRANGEMENTS ON THE BEST EARTH SYSTEM.

FINE OPEN POSITION.

LARGE GARDEN, SPACIOUS CORRIDORS, BILLIARD, SMOKING, READING ROOMS, &C.

(UNDER THE SAME MANAGEMENT)

QUINEY'S BELLA VISTA HOTEL

IN THE MONTE, 1320 FEET ABOVE THE SEA.

Accommodating about 30 guests and allowing of an easy and delightful change for those requiring bracing mountain air.

Distance from one Hotel to the other 6 miles, or one hour along the best and most picturesque road in the Island.

LAWN TENNIS GROUNDS, EXTENSIVE GARDENS, MAGNIFICENT
VIEWS OF SEA AND MOUNTAINS.

THE HOTEL IS SITUATED IN CLOSE PROXIMITY TO THE FAR-FAMED
CRATER OF TAFIRA.

ALL STEAMERS MET BY THE PROPRIETOR.

For Terms, &c., Address—

QUINEY'S ENGLISH HOTEL,
LAS PALMAS, GRAND CANARY.

Telegraphic Address:—"QUINEY, LAS PALMAS."

HOTEL METROPOLE

Grand Canary.

This Hotel, which is actually built upon the beach, faces the sea, commands the freshest air and the best views to be obtained in the neighbourhood of Las Palmas, and occupies a position which is exceptionally free from dust.

IT IS ALSO CLOSE TO THE ENGLISH CHURCH.

Midway between the Port and the Town it is within easy distance of either, and escapes any possible inconvenience which may be caused by the neighbourhood of other houses.

The rooms are light, airy, and there are special buildings within the grounds of the establishment, erected for those who prefer to be a little farther from the sea.

**THE COMFORT OF VISITORS IS IN EVERY WAY STUDIED,
AND PARTICULAR ATTENTION IS PAID TO THE COOKING.**

The special features of the Hotel are the spacious verandahs and covered patio, forming a delightful lounge where the most delicate can sit at all hours of the day or night.

A LARGE SUITE OF DRAWING, SMOKING & BILLIARD ROOMS, &C.

Golf Links, Lawn Tennis, Boating, Bathing,
Fishing and Archery.

Hot and Cold Baths and all Modern Conveniences.

A DOCTOR AND A TRAINED NURSE.

ALL STEAMERS MET BY THE HOTEL AGENT

*For Terms apply to the Manager, **R. G. FALKNER.***

Telegraphic Address—"METROPOLE, LAS PALMAS." A.B.C. CODE USED.

Agents in London:—

Messrs. ELDER, DEMPSTER & Co., 101, Leadenhall St.

Agents in Liverpool:—

Messrs. ELDER, DEMPSTER & Co., 14, Castle St.

FONDA DE EUROPA

11, CALLE BALCONES, 11.

VERY CENTRAL, CLOSE TO THE TRAMWAY TERMINUS
OPEN AIRY SITUATION, NEAR THE CATHEDRAL.

The oldest established Hotel in the City, with forty bedrooms, two large drawing-rooms, a spacious and picturesque Patio (courtyard), extensive Azotéas, billiard-room, and all conveniences. Excellent Cuisine to suit all comers. English sanitary arrangements, fixed baths, water laid on everywhere. English waiter.

RAMON LOPEZ, *Proprietor*

FONDA DE LAS CUATRO NACIONES

(Facing the Alameda.)

The best hotel, the best position, the largest and airiest bedrooms, and the most delicious cooking in the town. Wine free. No extras.

FORTY-TWO MAGNIFICENT BEDROOMS.

Splendid View of the Cathedral.

TWO LARGE DRAWING ROOMS, LIBRARY, AZOTEA, &c.

A new house, with new sanitary arrangements, on English principles. English interpreter.

PROPRIETRESS, PINO FEBLES.

MIGUEL SARMIENTO PEREZ

(Corredor del Banco de España.)

1, Perez Galdos, LAS PALMAS.

BILL, DISCOUNT AND COMMISSION BROKER, LOAN AGENT, STOCK BROKER,
AND GENERAL COMMERCIAL AGENT.

*Arranges Sales of, and Mortgages on, Houses and Estates, and negociates
loans on Warrants, Bills of Lading, &c.*

Purchase and Sale of Cheques, Banknotes, Gold, &c., at the Current
Rate of Exchange.

FARMACIA HERMANAS VERNETTA

1, Plaza de la Democracia, 1, Las Palmas.

(Next to the Stone Bridge.)

PHARMACEUTICAL CHEMIST.

Prescriptions carefully made up according to the Pharmacopœia of all Nations.
Drugs from the best houses.

ENGLISH, AMERICAN, FRENCH, & OTHER PATENT MEDICINES

In connection with and next to the above LEON VERNETTA.

An establishment with a large assortment of fancy goods, silver plate and cutlery,
&c., &c.

MILLER AND Co.

(Late THOMAS MILLER & SONS),

BANKERS & GENERAL MERCHANTS

The Oldest Established English House in the Island.

PROPRIETORS OF THE "LA INDUSTRIA."

MANUFACTORY OF CANARY CIGARS,

Made from Canary Tobacco grown and prepared under their special care.

SILVER MEDAL: Cadiz, 1887. SILVER MEDAL: Barcelona, 1888,
GOLD MEDAL: Brussels, 1888.

MANAGERS OF THE

LAS PALMAS COALING CO.

PUERTO DE LA LUZ.

BEST SOUTH WELSH COALS ALWAYS IN STOCK

Foreign Money Changed. Bank Notes, Bills, and Cheques Cashed.

Bills granted on London, Paris, Rome, Madrid, &c.

AGENTS FOR THE FOLLOWING BANKS:

| | | | |
|--|-----------|---|------------|
| American Exchange in Europe | London | London & South Western Bank, Limited | London |
| American Exchange National Bank | Chicago | London Chartered Bank of Australia | do. |
| British Linen Company Bank | Edinburgh | London Joint Stock Bank, Limited | do. |
| Bank of Scotland | London | Lloyds Bank, Limited | do. |
| Bank of New York | New York | Manchester and Liverpool District Banking Co., Lim. | Manchester |
| Bank of New South Wales | Sydney | National Provincial Bank of England | London |
| Bank of Australasia | London | London and Westminster Bank, Limited | do. |
| Coutts and Co. | do. | London and River Plate Bank | do. |
| City Bank, Limited | do. | Northern Banking Company | Belfast |
| Commercial Bank of Scotland, Limited | Edinburgh | Northern Trust Company | Chicago |
| Cocks, Biddulph and Co. | London | National Bank of Scotland, Lim. | Edinburgh |
| Cheque Bank, Limited | do. | Preston National Bank of Detroit | Detroit |
| Cox and Co. | do. | Royal Bank of Scotland | London |
| Child and Co. | do. | Thomas Cook and Sons | do. |
| Drummond and Co. | do. | Union Bank of Spain and England, Limited | do. |
| Glyn, Mills, Currie and Co. | do. | Ulster Bank, Limited | Dublin |
| Grindlay, Groom and Co. | Bombay | Union Bank of London | London |
| Grindlay and Co. | London | | |
| Herries, Farquhar and Co. | do. | | |
| Henry S. King and Co. | do. | | |
| Hongkong and Shanghai Banking Corporation | do. | | |
| London and County Banking Company, Limited | do. | | |

THE
Grand Canary Coaling Co.

LIVERPOOL & GRAND CANARY.

MERCHANTS AND BANKERS

COAL SIGNAL 'J'

*Contractors to the British Admiralty & 150 of the
 leading Steamship Lines, British & Foreign.*

SUPPLY ONLY THE BEST DESCRIPTIONS OF WELSH STEAM COAL

STEAMERS BUNKERED AND PROVISIONED BY DAY
 OR NIGHT WITH QUICKEST DESPATCH.

AGENTS TO

The Grand Canary Engineering Company

EXTENSIVE WORKSHOPS UNDER ENGLISH ENGINEERS,

With plant for executing all kinds of repairs to Hull
 and Machinery.

"SCOTT'S," "A.I.," and "A.B.C." CODES USED.

Telegraphic Addresses:—

"COALING, LIVERPOOL."
 "COALING, LASPALMAS."

TABAQUERÍA "EL GUINIGUADA,"

53, Triana, LAS PALMAS.

The best and largest assortment of Cigars, Cigarettes and Tobacco in the Island.

HAVANA CIGARS OF THE CHOICEST QUALITIES.
NATIVE CIGARS OF THE LEADING BRANDS.

Visitors and others who want a really good article at a moderate price should not fail to try "EL GUINIGUADA."

JORGE RODRIGUEZ

36, TRIANA, 36.

WHOLESALE AND RETAIL STORE AND GENERAL MERCHANT

In all descriptions of goods, both national and foreign.

SALE AND COMMISSION AGENT
LAS PALMAS, GRAN CANARIA.

Telegraphic Address:—"JORGE, LAS PALMAS."

MANUEL MILAN

Codina, 4, Las Palmas.

SASTRERÍA TAILOR TAILLEUR SCHNEIDER.

All work is done in the best manner and with
the greatest despatch.

A large stock of the best and most novel materials. English Flannels.

ELOY DOMINQUEZ ANTES DE J. B. RIPOCHE

San Pedro, 2, Las Palmas. Gran Canaria.

A LARGE AND ASSORTED STOCK OF ALL KINDS OF SILK.
WOOLLEN, LINEN, AND COTTON GOODS.

*Furniture, Carpets, Bedsteads & Bedding, Quincaillerie, & all necessities
for furnishing a house.*

ARTICLES OF NATIVE MANUFACTURE OF EVERY DESCRIPTION
TIMBER DEPOT.

— THE MOST MODERATE PRICES. —

J. M. BATISTA & HIJO

30, Triana, 30. LAS PALMAS.

THE HAT SHOP AND FACTORY.

Silk, Hard and Soft Felts of all colours, Wideawakes, Helmets, Travelling Caps. Straws, Panamas, &c., &c., from CHRISTY'S, and all the best English, French and German Houses.

Conformateur, Steam Machinery, and all conveniences for fitting.

HATS OF ALL SORTS MADE TO MEASURE. THE LATEST FASHIONS.

On parle Français.

RAFAEL PEREZ CABRAL

36, Triana, 36. LAS PALMAS.

Linen, Woollen, Silken, and Knitted Goods. Gloves, Corsets, and all requirements for Ladies.

GLASS, CHINA, AND FANCY ARTICLES

MODERATE PRICES.

Horlogerie, Réparation de Montres.

BIJOUTERIE, JOAILLERIE, ORFÈVREURIE, OPTIQUE

J. BONNY,

LAS PALMAS, GRAN CANARIA

ADRIAN TASCON

(Corner of the Triana and Remedios)

— LAS PALMAS, GRAN CANARIA. —

STORE FOR ALL CLASSES OF WOOLLEN, LINEN, COTTON, AND SILK GOODS

A large stock of Fancy Articles for Ladies and Gentlemen.

EVERYTHING at the MOST REASONABLE PRICES.

WOOD HERMANOS

Triana, 54. LAS PALMAS.

Wine Store established by James Wood in 1812.

THE DEPÔT OF THE CHOICEST WINES OF THE ISLAND

Visitors who wish to know what the wine was like which Falstaff was so fond of, should insist upon having a bottle of "WOOD HERMANOS" celebrated vintage.

LEONCIO DE LA TORRE

Fire Insurance Agent, and Store for the
Sale of Provisions and Groceries.

CANARY, SHERRY & FOREIGN WINES

Cognac and Liqueurs of all Classes.

ENGLISH, FRENCH AND ITALIAN SPOKEN.

Telephone No 70. Triana, 52, LAS PALMAS, GRAN CANARIA

VICENTE VERDÚ Y ROMERO

5, MURO, LAS PALMAS, GRAN CANARIA. Telephone No. 61.

EXPORT AND IMPORT COMMISSION AGENTS

*Store of Delicacies, Provisions, Hams, Butter, Tinned Meats,
Wines, Liqueurs, &c.*

ALSO STATIONERY, WRITING PAPER, ACCOUNT BOOKS, & OFFICE REQUISITES

Oil and Water Colours and Artists' Necessaries.

SHIPS PROVISIONED WITH THE GREATEST DESPATCH.

ADOLFO MIRANDA

Calle de los Malteses, LAS PALMAS.

SASTRERÍA—TAILOR

*All classes of cloth in stock. Clothes made to measure with the greatest
despatch. Speciality in light goods & flannels suitable to the climate.*

THE MOST MODERATE PRICES.

NANSON AND ENSELL

Photographers,

8, LEON Y CASTILLO, LAS PALMAS.

(On the left hand on entering the town).

Visitors on arriving at Las Palmas should call and see Messrs. Nanson & Ensell's splendid collection of views of the Canary Islands in all sizes.

A LARGE SERIES OF NATIVE TYPES.

A PHOTOGRAPHIC STUDIO HAS RECENTLY BEEN ERECTED
GROUPS A SPECIALITY. HOTELS VISITED. TERMS MODERATE.

BAZAR ALEMAN

LAS PALMAS. TRIANA, 50.

STOPPING PLACE OF THE STEAM TRAM.

HAS always a very large stock of all kinds of Travelling Trunks, Necessaires, Parasols, Scented Soap, Eau de Cologne, Florida Water, Stockings, Socks, Hats, Neckties, Children's Suits and Dresses, a splendid selection of Toys, Native Views, Xmas Cards, Spanish Fans, and numerous Fancy Articles suitable for presents and Souvenirs of the Canary Islands.

EVERYTHING VERY CHEAP, AND AT FIXED PRICES.

ENGLISH SPOKEN. MAN SPRICHT DEUTSCH.

Continued from page 38.

Sir John Lubbock, writes:—"To many of us the mere warmth of the south is a blessing and a delight. The very thought of it is delicious. I have read over and over again Wallace's graphic description of a tropical morning—"The sun of the early morning that turneth all into gold." Not only does a thorough love and enjoyment of travelling by no means interfere with the love of home, but perhaps no one can thoroughly enjoy his home who does not sometimes travel."—*Extracts from "The Pleasures of Life,"* by Sir John Lubbock, Bart., M.P., F.R.S., D.C.L., LL.D.

FOR PHOTOGRAPHIC REPRODUCTIONS

see page 50.



**ARTHUR
STEEVENS & CO.**

TAUNTON,

England.

Established 1836

**FURNITURE,
GLASS, CHINA,
BEDSTEADS,
CARPETS,
MATTING, &C.**

MANUFACTURERS AND EXPORTERS OF EVERY DESCRIPTION OF FURNITURE

Special attention given to Packing.

CATALOGUES & ESTIMATES FREE.



COMPANIA DE VAPORES CORREOS

The "León y Castillo" and the "Viera y Clavijo,"
Triple Expansion Engines, Luxurious Cabins, Elec-

TIME TABLE—EASTERN GROUP.

| DEPARTURES. | | | ARRIVALS. | | | | |
|-------------------------|------------------------|-------|-----------|--|-------------------------|-------|--------|
| | PORTS. | DATE. | HOURS. | | PORTS. | DATE. | HOURS. |
| 1 ST SAILING | S. Cruz de Tenerife... | 6 | 10 a.m. | | Las Palmas ... | 6 | 4 p.m. |
| | Las Palmas ... | 6 | 8 p.m. | | Puerto de Cabras ... | 7 | 6 a.m. |
| | Puerto de Cabras ... | 7 | 11 a.m. | | Arrecife ... | 7 | 4 p.m. |
| | Arrecife ... | 8 | 10 a.m. | | Puerto de Cabras ... | 8 | 1 p.m. |
| | Puerto de Cabras ... | 8 | 8 p.m. | | Las Palmas ... | 9 | 6 a.m. |
| | Las Palmas ... | 9 | 8 p.m. | | S. Cruz de Tenerife ... | 10 | 6 a.m. |
| 2 ND SAILING | S. Cruz de Tenerife... | 12 | 9 a.m. | | Las Palmas ... | 12 | 3 p.m. |
| | Las Palmas ... | 12 | 8 p.m. | | Puerto de Cabras ... | 13 | 6 a.m. |
| | Puerto de Cabras ... | 13 | 11 a.m. | | Arrecife ... | 13 | 2 p.m. |
| | Arrecife ... | 14 | 10 p.m. | | Puerto de Cabras ... | 15 | 6 a.m. |
| | Puerto de Cabras ... | 15 | 8 p.m. | | Las Palmas ... | 16 | 6 a.m. |
| | Las Palmas ... | 16 | 8 p.m. | | S. Cruz de Tenerife ... | 17 | 6 a.m. |
| 3 RD SAILING | S. Cruz de Tenerife... | 21 | 10 a.m. | | Las Palmas ... | 21 | 4 p.m. |
| | Las Palmas ... | 21 | 8 p.m. | | Puerto de Cabras ... | 22 | 6 a.m. |
| | Puerto de Cabras ... | 22 | 11 a.m. | | Arrecife ... | 22 | 3 p.m. |
| | Arrecife ... | 23 | 11 a.m. | | Puerto de Cabras ... | 23 | 3 p.m. |
| | Puerto de Cabras ... | 23 | 8 p.m. | | Las Palmas ... | 24 | 6 a.m. |
| | Las Palmas ... | 24 | 8 p.m. | | S. Cruz de Tenerife ... | 25 | 6 a.m. |
| 4 TH SAILING | S. Cruz de Tenerife... | 26 | 10 a.m. | | Las Palmas ... | 26 | 4 p.m. |
| | Las Palmas ... | 27 | 8 p.m. | | Puerto de Cabras ... | 28 | 6 a.m. |
| | Puerto de Cabras ... | 28 | 12 a.m. | | Arrecife ... | 28 | 4 p.m. |
| | Arrecife ... | 29 | 12 p.m. | | Puerto de Cabras ... | 30 | 6 a.m. |
| | Puerto de Cabras ... | 30 | 8 p.m. | | Las Palmas ... | 1 | 6 a.m. |
| | Las Palmas ... | 2 | 10 p.m. | | S. Cruz de Tenerife ... | 3 | 6 a.m. |

Service between the Ports of Santa Cruz of Tenerife and Las Palmas of Grand Canary.

Sails from Santa Cruz on the following dates: 1, 6, 10, 12, 17, 21, 25 and 26.

Sails from Las Palmas on the following dates: 2, 5, 9, 11, 16, 21, 24 and 26.

Further Particulars at

When a month has 31 days the sailings indicated in the Time Table for the 1st, 2nd, and 3rd, are effected on the 31st, 1st, and 2nd, respectively.

Special First-class Tickets are now issued, available for 6 months, to perform the trip by these magnificent steamers to the following islands: Canary, Tenerife, Palma, Gomera, Hierro, Fuerteventura and Lanzarote, with liberty to break the

INTERINSULARES CANARIOS.

both splendid new boats of 674 tons, are fitted with tric Lights, and all the most modern improvements.

TIME TABLE—WESTERN GROUP.

| DEPARTURES. | | | ARRIVALS. | | |
|--------------------------|-------------------------|------------|-------------------------|-----------|--------|
| PORTS. | DATE. | HOURS. | PORTS. | DATE. | HOURS. |
| 1 ST SAILING. | Las Palmas ... | 5 8 p.m. | S. Cruz de Tenerife ... | 6 6 a.m. | |
| | S. Cruz de Tenerife... | 6 7 p.m. | S. Cruz de la Palma ... | 7 6 a.m. | |
| | S. Cruz de la Palma... | 7 10 a.m. | Valverde ... | 7 5 p.m. | |
| | Valverde ... | 7 10 p.m. | San Sebastian ... | 8 6 a.m. | |
| | San Sebastian ... | 8 10 a.m. | Valverde ... | 8 5 p.m. | |
| | Valverde ... | 8 10 p.m. | S. Cruz de la Palma ... | 9 6 a.m. | |
| | S. Cruz de la Palma... | 9 8 p.m. | S. Cruz de Tenerife ... | 10 6 a.m. | |
| | S. Cruz de Tenerife... | 10 12 a.m. | Las Palmas ... | 10 6 p.m. | |
| 2 ND SAILING. | Las Palmas ... | 11 8 p.m. | S. Cruz de Tenerife ... | 12 6 a.m. | |
| | S. Cruz de Tenerife... | 12 7 p.m. | S. Cruz de la Palma ... | 13 6 a.m. | |
| | S. Cruz de la Palma... | 13 10 p.m. | San Sebastian ... | 14 6 a.m. | |
| | San Sebastian ... | 14 10 a.m. | Valverde ... | 14 5 p.m. | |
| | Valverde ... | 15 10 a.m. | San Sebastian ... | 15 5 p.m. | |
| | San Sebastian ... | 15 8 p.m. | S. Cruz de la Palma ... | 16 6 a.m. | |
| | S. Cruz de la Palma... | 16 8 p.m. | S. Cruz de Tenerife ... | 17 6 a.m. | |
| | S. Cruz de Tenerife... | 17 8 p.m. | Las Palmas ... | 18 6 a.m. | |
| 3 RD SAILING. | Las Palmas ... | 21 9 a.m. | S. Cruz de Tenerife ... | 21 3 p.m. | |
| | S. Cruz de Tenerife ... | 21 7 p.m. | S. Cruz de la Palma ... | 22 6 a.m. | |
| | S. Cruz de la Palma... | 22 10 a.m. | Valverde ... | 22 5 p.m. | |
| | Valverde ... | 22 10 p.m. | San Sebastian ... | 23 6 a.m. | |
| | San Sebastian ... | 23 10 a.m. | Valverde ... | 23 5 p.m. | |
| | Valverde ... | 23 10 p.m. | S. Cruz de la Palma ... | 24 6 a.m. | |
| | S. Cruz de la Palma... | 24 8 p.m. | S. Cruz de Tenerife ... | 25 6 a.m. | |
| | S. Cruz de Tenerife... | 25 10 a.m. | Las Palmas ... | 25 4 p.m. | |
| 4 TH SAILING. | Las Palmas ... | 26 10 a.m. | S. Cruz de Tenerife ... | 26 4 p.m. | |
| | S. Cruz de Tenerife... | 26 8 p.m. | S. Cruz de la Palma ... | 27 6 a.m. | |
| | S. Cruz de la Palma... | 27 10 p.m. | San Sebastian ... | 28 6 a.m. | |
| | San Sebastian ... | 28 10 a.m. | Valverde ... | 28 5 p.m. | |
| | Valverde ... | 29 10 a.m. | San Sebastian ... | 29 5 p.m. | |
| | San Sebastian ... | 29 8 p.m. | S. Cruz de la Palma ... | 30 6 a.m. | |
| | S. Cruz de la Palma... | 30 8 p.m. | S. Cruz de Tenerife ... | 1 6 a.m. | |
| | S. Cruz de Tenerife... | 1 8 p.m. | Las Palmas ... | 2 6 a.m. | |

the various Agencies.

voyage at any of the ports of call, the price of the tickets being £4 each.

All the vessels of this fleet carry English Purser, who act as interpreters to the passengers. English meals are served on board—Breakfast at 9 a.m., Lunch at 1 p.m., and Dinner at 6 p.m., at 6/- per day, exclusive of wines. Wines, Spirits, Ale, etc., on board at moderate prices.

HOTELS, SHOPS AND MANUFACTORIES

REQUIRING

Artistic Advertisements or Picture Blocks

ON CARDS, ENVELOPES, LETTER-PAPER OR GUMMED LABELS ;

in the form of Books, Pamphlets or Catalogues or for advertising in the Newspapers.

Landscapes, Views or Portraits of all sorts ; Exteriors or Interiors of Houses, Hotels or Shops ; Illustrations of Goods supplied or manufactured ; Maps or Plans drawn or reproduced from Photographs, Pen and Ink Sketches, Engravings, Prints, Drawings, or from the Objects themselves, with permanent inks, in monochrome or in several colors, on any material, according to desire, either by

ENGRAVING ON WOOD, STEEL OR COPPER

BY

LITHOGRAPHING ON STONE, or by PHOTO-MECHANICAL PROCESS

SUCH AS

Collotype

{ Suitable for mounting on cards or binding in books and best when produced direct from the negative, especially if the subject contains much detail.

Photo-Lithography

{ Also best when produced from the negative and most suitable where several colors are required.

Half-Tone

{ Easily reproduced from a good print or drawing and generally used where great accuracy is required or where there is much detail. Suitable for printing on cards, in books or in well printed newspapers.

Zinco-Type

{ Always reproduced from a black and white sketch, which can be made from any photo sent. The most generally useful class of block. Suitable for indifferently printed newspapers. This process omits much of the detail, but gives great scope to the artist.

Photographic Reproduction admits of work of the VERY HIGHEST QUALITY, not to be excelled by the best steel engravings. For TRUTH, PERMANENCE AND ECONOMY it is unequalled. Delicacy in the High Lights and Depth and Energy in the Shadows, are guaranteed, if good material is sent to work from.

In compiling his guide books the undersigned has necessarily visited a great number of Hotels, Manufactories, &c. A large proportion of these establishments are unprovided with means of issuing pictorial advertisements, or what they possess is so inartistic and ineffective as to be almost useless. Ignorant of the cost or means of procuring what they require, and unwilling to incur an unknown expense, proprietors leave this want unsupplied and the business suffers in consequence. The undersigned has learnt the nature of this want and is now prepared to fill it. He will answer all enquiries on the subject or help by offering suggestions, FREE OF CHARGE ; or execute designs and carry out orders at EXCEPTIONALLY LOW PRICES, in the MOST SATISFACTORY MANNER and in ANY of the METHODS specified above.

Write or forward Photos, Drawings or Materials to

A. SAMLER BROWN

64, East Street, Taunton, Somerset, England.

N.B.—Parcels must be forwarded, carriage free, at the owner's risk. When Blocks are required for Newspapers, state the width of the column.

CIGARS.

TENERIFFE CIGARS. • BAHIA CIGARS.

The great and growing difficulty of purchasing a fair cigar in England at a reasonable price is well known to every smoker. Owing to the government regulations, exacting a fine on the importation of small quantities, it is disadvantageous for the individual to order tobacco for his own consumption from abroad, from the Channel Islands, &c. The private joint-stock system is generally unsatisfactory, especially if one's friends do not pay up.

No system would be necessary if the middleman's profit were a reasonable one, and if the price were not increased by from one hundred to three hundred per cent. before the cigars reached the public.

The question is, can purchasers be helped, and will they take the trouble to help themselves? There is only one way. The cigars must be imported in bulk, kept in bond until wanted, and forwarded by post against cash or postal orders.

Such a depôt has been established by Messrs. E. A. da Costa & Co. at Liverpool. The method adopted is to constantly order small quantities of the best cigars to be had and to sell them at cost price, plus the duty and a small profit *on the original price of the cigar*. By giving constant orders the makers are kept in check and are forced to supply up to sample, whilst the cigars are sold green and can be matured by the purchaser without any charge for interest or warehousing.

There is no chemical method of ascertaining the birthplace of a cigar. When the British Government decided to confiscate all cigars with the name "Havana" on the box or wrappers, unless coming direct from Havana, it simply offered a premium to any Cuban manufacturer who might import leaf from elsewhere and himself make it up into cigars. This is done to an enormous extent, and the word "Havana" on a cigar-box is no guarantee whatever that the tobacco was grown in Cuba. Remember this and remember that in buying so-called Havana cigars, very often half the money is given for the name on the box. Real Havana cigars are the best grown, but a bad Havana is the most worthless cigar made and could not be sold under any other name.

E. A. DA COSTA & CO., 15 & 16, IRWELL CHAMBERS, LIVERPOOL

CIGARS.

TENERIFFE CIGARS.

If you have not been to the Canaries yourself ask a friend who has, what he thinks of the cigars made there. He will tell you that they vary like all cigars, but that the best are excellent smoking and that the medium are quite good enough for out of doors.

No tobacco is now grown in the Islands, and CANARY CIGARS are made from imported leaf, which is brought from all parts of the world and blended by experienced workmen. The best are loosely made, burn well from end to end, smoke evenly all the way down, and hold an ash till they are nearly burnt out. The cigars supplied by Messrs. E. A. da Costa & Co. are of good shape and possess an aroma only surpassed in Havana cigars of the highest class.

The price in boxes will fluctuate with the market from month to month. The purchaser will thus get the full benefit of any alteration in the exchange, or of lower prices brought about by competition, &c.

BAHIA CIGARS.

These are well known to be the best grown in Brazil. They have a pungency and aroma peculiarly their own, and are preferred by many smokers to any others. Messrs. E. A. da Costa & Co. have carefully gone through every brand of cigars produced in Bahia, and have selected two brands of which they always keep a large stock, as being most suitable to the English market.

When writing for samples of cigars please refer to the illustration on the following page, state how many cigars of each size are required, which shape is preferred, whether they are to be *Claro*, *Colorado Claro*, *Colorado*, *Colorado Maduro* or *Maduro*, and enclose stamps for the amount. The cigars nearest resembling those ordered will then be sent, and on these samples the final order can be given, a price list of the cigars in boxes then in stock being enclosed with each sample sent.

The prices of the sample cigars include the cost of packing, postage, &c., as well as a small profit, and are therefore no criterion of the price per hundred.

In conclusion it is again called to the attention of smokers that it is not intended to compete with the very low priced cigars often forwarded by means of the post, but to supply a good cigar at so low a figure as can possibly be quoted.

Orders for samples of a lesser total value than fifteen pence cannot be executed.

E. A. DA COSTA & CO. 15 & 16, IRWELL CHAMBERS, LIVERPOOL

SAMPLE PACKETS BELOW THE VALUE OF 15 PENCE CANNOT BE FORWARDED.

About $3\frac{1}{4}$ inches.
Samples 2d. each.

F

*E. A. da Costa & Co.
Liverpool*

Length about $4\frac{1}{4}$ inches.
Price of Samples 4d. each.

A

*E. A. da Costa & Co.
Liverpool*

Length about $4\frac{1}{8}$ inches.
Price of Samples 4d. each.

B

*E. A. da Costa & Co.
Liverpool*

Length about $4\frac{1}{2}$ inches.
Price of Samples 3d. each.

C

*E. A. da Costa & Co.
Liverpool*

Length about $4\frac{1}{4}$ inches.
Price of Samples 3d. each.

D

*E. A. da Costa & Co.
Liverpool*

About 4 inches.
Samples $2\frac{1}{2}$ d. each.

E

*E. A. da Costa & Co.
Liverpool*

About $3\frac{1}{8}$ inches.
Samples $1\frac{1}{2}$ d. each.

G

*E. A. da Costa & Co.
Liverpool*

E. A. DA COSTA & CO., 15 & 16, IRWELL CHAMBERS, LIVERPOOL.

STORE

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